

It should be evident from the rocky character of the soil of the watershed, and still more from the layer of rock fragments covering its surface, that the soil is permeable and receptive to water—a fact of the utmost importance when considering the results of this experiment and their application under other conditions. Whether this ability to absorb water is the primary factor explaining the steady flow of the streams (it is evident from certain calculations that the watersheds can not drain dry in less than 6 or possibly 12 months), or whether the rather remarkable water-holding capacity of the slopes denotes a soil of more retentive character next to the bedrock and in its crevices is perhaps unimportant. It is highly probable, however, that clay in crevices causes a very slow draining out of the water which penetrates most deeply. Such a condition was observed where the dams were constructed.

## SUMMARY AND CONCLUSIONS

### SUMMARY

#### CONDITIONS OF EXPERIMENT

1. This experiment deals with streamflow from two mountain watersheds of about 200 acres each, located on the drainage of the Rio Grande in southern Colorado. Their elevations are between 9,000 and 11,000 feet, whereas the areas in Colorado producing living streams extend mainly from 8,000 to the highest peaks, some of which are 14,000 feet in altitude. These watersheds therefore should be average or only slightly below in water-yielding capacity.

2. The geological formation of the locality, a quartz-lattice flow of great uniformity over the two watersheds, and the coarse, sandy soil derived therefrom, containing and covered by many small rock fragments, were conducive to a very high degree of absorption of rain and snow water. Hence there appeared very little surface run-off at any stage of the experiment, and the quantities of soil eroded were of extremely small magnitude. Only the coarse granitic soils occurring in portions of Colorado would be likely to show greater absorptive and storage capacities than the soils of these watersheds; the igneous formations, in general, produce somewhat finer soils; the sedimentaries of the high plateaus of southern Colorado and of the foothills of both the eastern and western slopes might be expected to absorb water less readily and to be much more erodable. It is, therefore, evident that a very conservative basis was selected for demonstrating the possible effects of forest removal on streamflow and erosion, particularly the effects of soil disturbance and change.

3. The forest cover of both watersheds, though far lighter than the undisturbed stands at similar elevations in the Rocky Mountain region, was fairly typical of the region as a whole, it having been heavily visited by fires. The original forest was mainly Douglas fir at the lower and Engelmann spruce at the higher elevations. These areas were burned over about 35 years ago, watershed B (the one which was denuded in the experiment) having been burned somewhat more extensively than A. The burned areas had come back largely to a scrubby growth of aspen, which, while forming dense thickets and thereby protecting the soil adequately, is obviously less effective than conifers as a shade to retard the melting of snow. Consequently any effect on snow melting from the removal of such a cover would be moderate in comparison with the effect of removing a complete canopy formed by evergreens.

4. Stream flow and the meteorological conditions of both watersheds were recorded continuously from late in 1910 until October 1, 1926, triangular-notch weirs and Friez automatic water-stage recorders being employed to assure the greatest possible precision in the measurements of streamflow.

October 1 was taken as the starting point for the streamflow year, and the data both of stream flow and precipitation have been summarized accordingly from October 1, 1911, for the eight years before denudation of B and the seven years subsequent thereto.

So far as known, this experiment differs from any other experiment of a like nature ever made in that streamflow measurements were maintained throughout the extreme low temperature of winter,  $-25^{\circ}\text{F.}$  ( $-31.7^{\circ}\text{C.}$ ).

5. The denudation of B watershed was started in July, 1919, but was not completed until late in 1920. About one-fifth of the total ground area was burned over and sufficiently heated to prevent the immediate sprouting of the aspen from rootstocks. Elsewhere the vegetation and soil were little affected and a feeble growth of aspen started almost immediately over most of the area. At the end of 1926 this had reached an average height of 4 feet, but conifers were, of course, lacking.

#### GENERAL CLIMATIC CONDITIONS

6. The outstanding characteristics of climate and streamflow established during the first eight years of the experiment were as follows:

(a) A mean annual temperature of about  $34^{\circ}\text{F.}$

(b) A mean annual precipitation of about 21 inches.

(c) Precipitation about half snow and half rain. Except on the south slopes there is practically no melting throughout the winter until after March 1. About one-half of the total annual precipitation is released during the melting period, which ordinarily does not end until about June 1. More than 55 per cent of the total annual run-off appears during the flood stage, the average time of which is from March 30 to June 30, under the arbitrary limitations set for it.

(d) Owing to differences in conformation and underground conditions of the two watersheds, B is a more effective storage reservoir than A, and consequently its stream neither reaches a peak of flow quite so soon as that of A, nor drains out the excess from the spring flood and storage so soon. The lag during the rise of the flood seems to be further accentuated by the fact that the orientation and other features of B do not permit the early season insolation to be as effective as on A in melting the snow, especially near the stream channel. The importance of this is that the constant lag of B makes difficult the direct comparison of the height of the two streams at any given time. It is apparent from the ratios of run-off to current precipitation that B carries over from one year to the next a greater quantity of ground water than is carried over by A.

(e) As much as 42 per cent of the current year's precipitation may appear as run-off when the precipitation is sufficient and snow-melting conditions are favorable and as little as 17 per cent in years of low precipitation and unfavorable climatic conditions.

The losses of water by evaporation remain fairly constant at about 15 inches per annum, although by reason of the hold-over water from one year to another an accurate determination of this point is impracticable.

#### CLIMATIC COMPARISON OF TWO PERIODS

7. The mean annual temperature of watershed A as deduced from hourly readings for both periods was

identical; considering monthly means, however, there were material differences in several months, thus April, October, and November were colder in the second period than in the first and December was warmer.

The mean annual temperature of B watershed was  $0.2^{\circ}$  colder than A during the first period and  $1.1^{\circ}$  warmer during the second; apparently the effect of denudation of B was to increase the annual mean by  $1.3^{\circ}$ .

8. The mean annual maximum temperature of B in the second period was  $2.5^{\circ}$  higher than in the first period, and that of A in the second period was  $0.4^{\circ}$  higher; therefore the net increase in B maximum due to denudation was  $2.1^{\circ}$ .

9. The mean annual minimum of B watershed after denudation was  $0.4^{\circ}$  higher than before, whereas that of A watershed was  $0.3^{\circ}$  lower; the total increase in B minimum attributable to denudation was, therefore,  $0.7^{\circ}$ .

Summing the increases in both maximum and minimum gives  $2.8^{\circ}$  and dividing by two gives  $1.4^{\circ}$  as the total increase in the annual mean temperature, or one-tenth of a degree greater than was obtained by using means deduced from hourly readings.

10. Judging from the record of the A watershed the second period was the less windy of the two. The average velocity for A was 2.2 m. p. h. in the first period and 1.9 m. p. h. in the second period, or a drop of 0.3 m. p. h. The average velocity for the B watershed in the first period was 1.0 m. p. h., and in the second 3.3 m. p. h., an apparent increase due to denudation of 2.3 m. p. h.; but since according to the A record the first period was more windy than the second by 0.3 m. p. h., the corrected velocity for the second period should be 3.6 m. p. h., an increase of about 260 per cent. This result is, however, of strictly local application.

11. Snow melting at all stages was undoubtedly advanced on B as a result of denudation. Judging from the dates of disappearance of accumulated snow from the several snow scales, the average date of snow melting on B watershed has been advanced four days, using A for both periods as a basis of comparison.

12. The mean relative humidity as measured at 9 a. m. at the north slope stations was before denudation slightly greater for B than for A. After denudation most of this difference disappeared. The effect then was to make the atmosphere over B relatively somewhat drier. It is very doubtful whether the difference between B and A at either stage was significant of anything more than slightly different local conditions under which the psychrometers were exposed, of such a nature that observations at another hour might have reversed the relative positions.

#### EFFECTS OF DENUDATION ON STREAM FLOW

13. In the predenudation years the average annual precipitation on watershed A was 21.03 inches; the average run-off of A was 6.08 inches and that of B was 6.18 inches.

In the postdenudation period the average precipitation was 21.16 inches, the flow of A 6.20 inches and that of B 7.26 inches. These figures indicate an excess flow from B of about 0.96 inch for the average of seven postdenudation years. The greatest excess was doubtless piled up in the third year and amounted to nearly 2 inches while in the sixth and seventh years it had dwindled to a little more than one-half inch.

#### VOLUME AND HEIGHT OF FLOODS

14. The greater portion of the excess discharge resulting from denudation occurs in the spring flood and in the earlier part of that flood. Comparisons of the natural

flood periods of both streams show that prior to denudation A discharged an average of 3.44 inches and B 3.39 inches in this period. After denudation, A discharged 3.51 inches in the three months of flood, and B 4.25 inches, an apparent increase of 0.79 inch. The distribution of these excesses by years was essentially the same as that of the whole excesses, the third year having an excess of about 1.53 inches.

Treating the floods as covering the period March 1 to July 10 of each year, gives a perhaps more reliable basis for comparison and shows the average excess for B to have been 0.80 inch, or possibly as much as 0.84 inch if factors affecting both streams in the second period be given proper weight. Of the obvious amount, 0.61 inch of 76 per cent is chargeable to the period before May 15, when A stream usually crests, and all has been delivered by June 10.

15. The period of rise from the earliest melting to the crest of the spring flood is perhaps more susceptible to close analysis than any other, because at this time the trends of the two streams are in the same direction; there is little confusion of influences. In the predenudation period B always appeared less susceptible to early melting influences than A and lagged behind from the time the rise of A became rapid and until after the crest of A. In the second period the rise of B was always ahead of A, the beginning having been advanced about 12 days. The volumes discharged up to and including the crest day for A were, in the first period 1.29 inches for A and 1.07 inches for B. In the second period the corresponding quantities were 1.74 and 2.20 inches, the average crest-day being somewhat later in this period. The excess discharge of B during the rise, as a result of denudation, reached a maximum of 1.23 inches in the second year. This occurrence was to be expected as a result of the burning in the fall of the first year. Later the charcoal spots became covered in some degree by vegetation and probably were less effective in hastening melting.

16. The crests of the floods on B were advanced only about three days by the tendency toward earlier melting after denudation, because the crests are usually brought about by, and occur very quickly after, a few exceptionally warm days. The time is usually late enough so that both watersheds are equally affected by the high temperatures. The height of the B crests, formerly averaging only 6 per cent greater than those of A were, however, increased by denudation so that their average excess over those of A was 64 per cent. One crest of B before denudation, that of 1912, exceeded the A crest by 33 per cent. In 1922 crest of B, though not quite so high as 1912, exceeded that of A by 85 per cent. These differences, perhaps more than any others, explain the increased erosion of B watershed after denuding and are characteristic of the extreme effects in the flood stage that are commonly ascribed to forest removal.

17. Except in the second year after denudation when the early flood on B was so much heavier than that on A, there is no indication of appreciable shortages during the declining periods of the floods. The average excess, however, at this time is only 0.12 to 0.19 inch, depending on the use of the "technical" or "arbitrary" flood calculation.

#### STREAM FLOW DEPENDENT ON STORAGE

The average summer flow of A, July 10 to September 30, inclusive, was 0.90 inch before denudation and 0.90 inch afterwards. That of B was 0.82 inch in the first

period and 0.91 in the second, a gain of 0.09 inch. Analysis of the causes of variations in the summer flow of B stream for different years indicates that size of the spring flood is the most important factor, lateness of the flood has a slight effect, and current precipitation enters in to the extent of approximately 34 per cent of the pre-denudation flow.

Because of somewhat larger floods on A in the second period, the average summer flow of B should have been probably nearly 0.83 inch. There was thus an excess of about 0.08 inch in the average year, using the flood discharge of A as the criterion.

The distribution is irregular, but the first year after denuding apparently produced the least excess as might have been expected from the incompleteness of the denudation and the lack, at that time, of any accumulated ground water to sustain the flow.

It is well to point out that the slight summer excesses do not necessarily mean a saving of water during the summer period, as is likely to be the first impression. The volume of summer flow is nearly two-thirds dependent on the water placed in storage during the flood stage. Considering the size of the spring floods on B, an excess summer flow of about 0.09 inch on the average might have been expected. Since only this expected flow was delivered, it is more than ever evident that decreased transpiration following denudation was counterbalanced by increase in evaporation from ground surface and from such vegetation as took the place of trees.

19. The fall and winter period, October to February, inclusive, is essentially a period of storage of precipitation and draining out of deeper ground water, since precipitation occurs principally as snow.

There is usually some melting in March, and on B after denudation, nearly always enough to bring the stream up to flood stage about the end of that month. Such melting as occurs on the south exposures throughout the winter must largely be lost by immediate evaporation or may to some extent augment ground water in areas which are mostly too dry to contribute to winter stream flow, because the streams show only occasional slight rises, and in general decline to the middle of February. Possibly as much as 25 per cent of the annual precipitation evaporates during the cold weather, October to February, inclusive, or at least before the snow has all melted.

In the pre-denudation period the discharge of A averaged 1.40 inches for the period of 5 months and of B 1.59 inches, or, exclusive of the fall flood year (1911-12), 1.28 and 1.47 inches, respectively. The second period seems to have been essentially comparable in winter conditions, although the average December temperatures were appreciably higher in the second period. This, and probably the larger amount of storage water still held over, may account for slightly higher discharge of A, 1.38 inches when compared with the last seven years of the pre-denudation period; that of B was 1.63 inches. There is thus indicated a gain of 0.06 inch in discharge of B, but analysis shows that the rates earlier in the year might have produced a winter flow from B of about 1.61 inches, so that only 0.02 inch remains as the apparent excess.

20. The slight excess discharge of B during the winter, resulting from denudation, seems not to be accounted for by more effective snow melting, though this undoubtedly occurred to some extent, affecting principally the upper layers of the soil. In the first period, exclusive of 1911-12, B showed an average ratio to A of 1.06 in October, and this climbed steadily to 1.22 in February, indicating that B was being held up more than A by

current melting. But it is probable that this steady relative rise reflects only the greater storage capacity of B, in other words, the more complete draining out of A. In the second period, B was absolutely and relatively higher than A in October, the ratio being then 1.15 and this ratio again climbed to 1.22 in February. Furthermore, comparison of the minima reached in February indicates that both streams remained higher in the second period, but B relatively no higher than A. The difference, then, must be due entirely to the higher stage of B throughout the flood and summer stages preceding.

#### CAUSES OF INCREASED STREAM FLOW

21. The discharge of B, even more markedly than stream A, is kept up after the end of the flood by water probably traceable back to the snowfall of the previous winter. The annual excess flow from B after denudation was nearly 0.96 inch. About 0.68 inch of this excess comes down before the crest of the flood, 0.12 during the decline of the flood, 0.09 in the summer months, and nearly 0.07 inch in the five winter months. If it be said that all of the excess discharge after the flood period is due to decreased transpiration during summer—which plainly is not the case—there is still left the larger part of the total, or about 0.80 inch, which appears as excess during the flood, and most of which can be accounted for only as a saving during the winter accumulation period. Both lack of interception by tree crowns, and a slightly earlier melting in spring, reducing the loss by evaporation, probably contribute to this end. Advancing the melting period in the spring by as much as 10 days may reduce the opportunity for evaporation, which amounts, on the average, to nearly one-half inch for every 10 days of the year, and must be especially great when melting is prolonged and the ground remains saturated well into summer. Another change effected by denudation is to permit the snow to fall more evenly and with less exposed surface—except as it forms drifts—to melt, settle, and crust, and to be less subject to moving about by winter winds. It would seem, however, that the advantages gained in this way would be more than balanced by the greater exposure of the snow to insolation.

The fact that the order of magnitude of the stream-flow excesses during the second period is, except in the first year after the beginning of denudation, the same as that for the amounts of snowfall, makes it appear altogether probable that interception by tree crowns, which was practically eliminated by denudation, is a large factor in evaporation losses during the winter. The amount of such losses would, however, vary with the amount and character of the snow, particularly its wetness, and with the character and density of the tree cover. The savings from 1919 to 1926 were probably abnormally high for the locality of this study, since the snowfall of this period was above the average, but were undoubtedly less than might be expected from the removal of a full coniferous stand.

#### EROSION AND SILT DEPOSITION GREATLY INCREASED

22. A very important consideration, of course, is that this excess of water flows down the gulch at such time, and in such volume, that it can not be used even in a region in which irrigation is extensively practiced, except by artificial impounding.

Even this appears unattractive when erosion and silting are given proper weight, for engineers are beginning to realize that artificial reservoirs are of short-lived value unless silting can be controlled.

During the predenudation period the average annual silt load carried to the dam by stream A was 691.5 pounds net dry weight, and that carried by B was 568.5 pounds. In the second period A carried an average amount of 477 and B 3,340.1 pounds. The ratio B/A therefore increased from 0.822 to 7.002, or was about eight and one-half times as high after denudation.

23. Most of the larger quantities of silt were obtained in the July cleanings of the basins, covering flood periods after April 15. The ratio of B to A for this quarter before denudation was 0.75 and after denudation 9.12. An increase of about 50 per cent in the average height of B flood crests, together with any direct effects of denudation on the soil, are seen, therefore, to have magnified the silt load of the stream twelve times.

24. Before denudation, one large flood from rain occurred in October, 1911. The silt measurement for 12 months, ending in July, 1912, shows 1,246 pounds of silt from A and 788 from B. In August, 1926, a rain which was far less effective on stream flow, though causing some quick run-off, produced for this quarter only 50 pounds of silt from A and 1,073 from B, the normal ratio for this season being about 1:1.7. The extreme danger of greatly increasing erosion by the disturbances which accompany denudation is thus apparent. And, while all of the silt quantities obtained from these areas are but a tiny fraction of those which may be obtained from highly erodable soils, it is believed the tendencies here shown are indicative of what would obtain under other conditions.

#### RECAPITULATION

The proportion of the annual precipitation appearing as run-off from year to year in the undisturbed condition of the two watersheds ranged from 17 to 42 per cent. The variations are obviously independent of forest cover and (seemingly more or less fortuitously) depend upon the depth of the snow cover, the time whether in mid-winter or in the spring months, at which the bulk of the snow fell; and the occurrence of favorable melting temperatures at a critical time.

The flood run-off of watershed B before denudation was the same as that of A; after denudation of B the spring flood on that watershed increased to a peak discharge in the third year after denudation of about 35 per cent excess and then diminished until the end of the experiment when it was 22 per cent greater than that of A.

Before denudation the general discharge ratio B/A was 1.017, after denudation 1.170. The maximum ratio for a single year was that of the third year after denudation, viz, 1.284, diminishing from that figure to 1.153 at the end of the experiment; the increase in flood run-off did not result in lowered storage or lowered run-off at other seasons.

The load of silt carried before denudation by both streams was very small, after denudation the load on B stream increased say 5 to 15 fold; but even then the erosion was only a fraction of that which would have occurred under different soil conditions, other factors remaining unchanged. There was very little surface flow on B watershed outside of that largely induced by skid trails. Had there been heavy rains and surface run-off the erosion would have been greater.

The climatic conditions of the two periods were substantially the same, with the single exception that the snowfall of the second period was a little greater than that of the first. The changes in the several climatic elements which might be assigned to denudation of the B watershed have already been mentioned.

#### CONCLUSIONS

In the application of these results to other regions, types of soils, and conditions of climate, there will be many opportunities for differences of opinion. The publication of the basic data of this study—the daily measurements of precipitation and stream flow, Appendix I (Table 66)—will afford students and investigators the fullest opportunity to make independent analyses of the data and to draw their own conclusions. The still more detailed hourly records of stream flow, temperature, precipitation, etc., are on file in the United States Weather Bureau and will be made available under proper restrictions. Nevertheless the writers believe it an obligation to sum up the conditions which produced the results as hereinbefore set forth, and thereby to clarify, so much as may be possible, their application elsewhere by the following brief statements.

It has been pointed out that the areas in question, because of their geological origin and present character of soil, absorb water readily without appreciable surface run-off or erosion and therefore represent excellent reservoirs for the storage of the precipitation that is released in greatest abundance when snow melts in the spring. High heads were produced only when the ground had become saturated with snow water. Climatic and topographic conditions being uniform, it is evident that the height of a flood crest must vary inversely with the ability of a particular watershed to absorb and to hold great quantities of water. The absolute height of the flood crest under a given set of conditions is, therefore, an inverse measure of the value of the watershed for storage.

On the other hand, the low stage of stream flow is also an indicator of watershed conditions. At Wagon Wheel Gap, as elsewhere, the great increase in evaporation in the warm weather of summer, together with the demands of vegetation which flourishes on the abundant moisture left by the winter's snow, causes a rapid drying of the superficial soil layers, which is not relieved until the crest of the heat is passed, and vegetation has aged and waned. In most temperate climates, as in the locality of this study, the peak of demand is probably passed in the latter part of August. There is no evidence in this study that the summer demand for moisture was appreciably affected by the removal of the forest cover. Evidently surface drying proceeded in just about the same way with forest or herbaceous vegetation. Stream flow, then, is on the decline until the lessening of surface demands for moisture permits current precipitation to reach the deeper soil and add to the supply which is flowing slowly toward springs. Stream flow in the midsummer period, in the locality of this study is dependent quite largely on the storage capacity of the watershed. In other localities it may be more, or less, dependent, as the current precipitation is less, or more, adequate to meet the current demands of evaporation. In other words, the low stage of stream flow reached in later summer is in some degree a further measure of the storage capacity of the watershed, and still more clearly a measure of the need for storage capacity.

The ratio of the high stage of a stream to its low stage, as reached within these general limits of time is, therefore, a direct measure of the need for protection of the watershed as a storage reservoir. This ratio, if measured over a number of years, embodies all of the local climatic and soil factors which affect the régime of streams. The higher the ratio, the more apparent it is that everything possible should be done to lower flood crests by retarding the melting of snow in the spring or increasing the

capacity of the soil to absorb quick accessions of water at any time. The higher the ratio, the more evident it is that either in spring freshets or those following heavy rains at any season, water is running off, often superficially, in a hasty, useless, and destructive manner.

The ability of any vegetative cover to assist absorption, thereby reducing surface run-off and erosion under nearly all conditions and the ability of a forest cover in particular to retard snow melting, can not be seriously questioned. On the other hand, a locality whose soil or climatic conditions are not conducive to extremes of run-off obviously does not have the need of a protecting influence in the same degree as a region or watershed whose streams are not permanent and whose freshets may yet be strong and destructive. In the absence of direct measurements of stream flow, the extent to which erosion of a watershed has occurred may be used as a basis for estimating the liability of great extremes of run-off.

On the watershed denuded in the present study the original ratio of high to low stages was about 12 to 1 and this was increased only to 17 to 1 by denudation. The high stages were made much higher and the low stages were made slightly higher. In other words, though the snow water was made available earlier and in more concentrated volume, the watershed was still capable of absorbing it after denudation and of retaining for discharge throughout the year a greater volume than before, although the amount retained was not increased in proportion to the flood volumes. It is obvious that the storage water could not have been increased even to this extent if these watersheds showed any markedly increased tendency to yield surface run-off after denuda-

tion. Any flood excess of water that does not go into the storage reservoir, can have no effect on the low water flow from that reservoir. A further factor tending to reduce the low water flow will be the advance in the time when the maximum storage is attained.

It is therefore proposed that the ratio of high to low stages indicates the liability of failure of the watershed to exercise its full storage function and hence the need for protective influences which will cause that function to be exercised to the fullest possible extent, with the *probability* that so far as spring storage is increased summer flow will be increased, and will not be appreciably decreased by the growing-season drain of the forest cover.

From the evidence of this study it is estimated that in a locality where the normal ratio of high to low stages is more than 25 to 1 with a moderate protective cover, the probabilities are strong that the low stages would be made still lower by removing that protection. The very great possible latitude in this ratio is illustrated by the stream flow records published by the water resources branch of the United States Geological Survey, which show for streams much larger than those here dealt with (and whose extremes are, therefore, subject to more compensating factors) ratios commonly as high as 50 to 1 and occasionally as high as 150 to 1 or even higher. These ratios indicate the infinite possibilities for variation in the climatic and soil factors affecting absorption and retention by watersheds and the need for careful inductive reasoning in the attempt to relate even qualitatively the results derived from one set of conditions to those which might be given by another set of conditions.

## APPENDIX 1

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch<sup>1</sup>

1911-12

Date	October				November				December				January				February				March			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1	26	28	1470	1239	21	21	1786	1698			1298	1245			1030	1093			964	1057	27	30	888	1033
2	2	4	1157	1156	T.	T.	1781	1684			1290	1238			1046	1091			969	1092	14	14	896	1040
3		T.	1083	1108			1725	1649			1273	1235			1038	1046			960	1069	4	4	915	1049
4	76	72	1153	1147			1706	1623			1264	1228			1036	1093			952	1069	24	24	923	1047
5	254	274	6340	4725	5	6	1711	1601			1271	1235			1048	1093			962	1069		T.	1022	1061
6	T.	T.	6161	5025			1669	1587			1262	1224			1038	1097			948	1069	20	19	1087	1075
7			6448	5193			1643	1560	4	4	1256	1222	14	13	1042	1105			944	1069	10	12	1008	1075
8			5821	4285	14	14	1654	1566			1233	1210			1048	1105			932	1063	4	4	967	1074
9			4924	4958	16	14	1626	1542			1234	1200	T.	T.	1038	1105			927	1073	1	1	947	1060
10			4252	6502	13	12	1596	1530			1239	1200			1030	1105	T.	T.	931	1072	44	44	931	1080
11																								
12			3786	5772	25	30	1584	1519			1221	1187	T.	T.	1027	1093			931	1069			912	1074
13			3454	6012			1526	1477			1219	1174			1016	1093	1	1	931	1069	5	5	905	1062
14			3197	4442	T.		1550	1479	2	2	1216	1161			1009	1093			916	1069	48	50	902	1074
15			3022	3973			1544	1460			1191	1143			1010	1107			915	1067			911	1055
16			2856	3584			1523	1429			1177	1140			1005	1105	T.	T.	920	1057			909	1055
17			2729	3247	1	1	1519	1420			1177	1140	11	10	1016	1105	4	2	914	1055	5	4	911	1054
18			2628	3022			1482	1404	8	8	1166	1140	11	11	1009	1103			917	1045			928	1051
19			2519	2815			1470	1338	88	55	1177	1144			995	1093	3	4	932	1055			1070	1063
20	T.	T.	2441	2645			1465	1366	4	4	1166	1154			995	1095	T.		924	1055	34	34	1035	1079
21			2358	2499			1443	1354			1150	1164			981	1079			900	1045	18	18	981	1111
22	2	2	2286	2360			1437	1354			1130	1164			964	1072			899	1043	2	3	983	1107
23			2210	2273	8	10	1420	1354			1123	1163			966	1072			899	1040	18	18	1067	1145
24			2142	2174			1389	1330			1123	1152			991	1057	2	2	899	1045	2	2	1063	1129
25			2105	2092			1370	1307	9	8	1123	1150			986	1057	20	14	899	1045			1068	1114
26			2045	2022			1360	1295	16	14	1123	1140			981	1057	17	11	901	1043			1099	1116
27	24	24	1990	1960	T.	T.	1358	1301	T.	1	1112	1124			981	1059			891	1050	2	2	1120	1141
28	34	38	1971	1908	10	9	1246	1294			1104	1105	T.	T.	984	1075			877	1046	2	2	1085	1133
29			1945	1873			1324	1271			1111	1105			984	1081			877	1048			1042	1144
30	23	24	1925	1853			1306	1257	22	21	1102	1105			973	1075			870	1036			1071	1158
31			1885	1804			1303	1250			1106	1105			966	1069					7	6	1086	1162
			1822	1768							1078	1103			974	1060					14	12	1048	1151

1912-13

1	8	7	1093	1168			1041	1216			952	1118	6	6	929	1047	1	1	874	1059			781	1024
2	10	10	1109	1191			1030	1208	T.	T.	948	1121			920	1048	11	10	866	1057			788	1016
3	T.	T.	1104	1205	1	1	1059	1216			941	1122			920	1068			855	1061			799	1026
4	13	13	1123	1202			1043	1199	13	10	919	1122	8	8	923	1074			837	1049			819	1017
5	35	37	1178	1268	T.	T.	1037	1178	31	30	957	1116	54	44	929	1072			798	1039			842	1013
6	20	20	1175	1230			1022	1188			952	1109	2	2	920	1072			802	1039	4	4	829	1015
7	2	2	1219	1268			1024	1196			941	1109			896	1071			813	1039			825	1019
8	4	4	1175	1258			1022	1190			941	1108	1	1	892	1058	T.	T.	824	1033	T.	T.	854	1019
9	24	25	1100	1237			1029	1188	2	3	949	1109	1	1	903	1061	T.	T.	803	1033			851	1020
10	4	4	1133	1254			1027	1189			936	1105	20	28	909	1073	1	T.	806	1025			855	1033
11			1125	1262	38	36	1027	1212			921	1105			901	1067	T.	1	813	1026	10	10	872	1021
12			1095	1252			1023	1205			931	1094			888	1059			802	1021	23	26	866	1026
13			1049	1240			1012	1189			920	1105			888	1047			794	1025	4	4	854	1020
14			1040	1217			1002	1177			920	1094			888	1050			779	1021			841	1008
15			1055	1206			1000	1176	4	4	925	1099			888	1046			781	1023			824	1002
16			1055	1211			990	1164	9	8	937	1105	12	12	898	1051			781	1024			824	989
17			1057	1200			988	1164	5	4	909	1109	T.	T.	899	1048			787	1027			835	993
18			1052	1200			965	1158			898	1105			899	1012	11	11	797	1050	5	6	852	1000
19	4	6	1063	1210			963	1154			899	1104			896	1071	15	12	802	1038	3	3	870	1018
20	4	4	1059	1212			975	1157			898	1091			897	1078	34	34	804	1031	4	4	875	1012
21	4	5	1080	1218			984	1155	4	4	894	1081			888	1069	1	2	780	1024	1	1	850	1021
22			1042	1189			1003	1142	1	1	897	1080			899	1072	10	10	812	1026	6	6	896	1049
23			1050	1188			1013	1140			885	1067			888	1070			810	1026	50	52	911	1041
24			1046	1177			1006	1140			901	1066			888	1075	2	2	803	1021	20	27	888	1020
25			1034	1165			968	1134			909	1073			888	1077	10	10	804	1021	6	8	869	1011
26			1042	1173			968	1140	2	4	906	1061			888	1062	6	5	824	1028			865	1004
27	54	54	1198	1274			953	1130			905	1047			886	1051	8	10	812	1025			869	1014
28	3	3	1223	1305			941	1120			911	1049			886	1051			800	1025			838	1043
29			1066	1271			941	1109			935	1058			881	1052							1131	1111
30	43	43	1064	1246	5	7	941	1116	1	1	932	1079			879	1064							1474	1284
31	1	1	1048	1222					T.	T.	922	1053	1	T.	871	1067							1948	1409

1913-14

1.	18	18	1054	1057	T.	T.	866	962	60	56	823	938	14	12	781	915	T.	T.	761	89 <sup>8</sup>			822	891
2.	13	14	989	1042	16	15	861	966	3	4	817	934			788	915			770	894	39	36	838	907
3.	24	27	1119	1095	62	58	875	984	60	58	822	938	10	10	792	920			770	884			821	904
4.	4	6	1014	1075			870	981	61	58	837	950			782	915			774	893			800	902
5.	8	10	980	1051			866	980		T.	848	965			781	909	6	6	781	896	T.	T.	809	904
6.			949	1036			869	971			826	941			781	906	3	2	778	893			802	901
7.			947	1020			877	980			814	938			781	907			768	890			809	905
8.			948	965			863	973			823	938			782	918			759	878			820	911
9.	20	19	937	968			856	967			810	938	2	2	789	906			759	873			841	916
10.			943	996			844	968			812	931			779	901			764	873	2	1	840	929
11.			936	987			839	962			796	925			770	899			777	877	1	1	835	935
12.			940	989	10	10	853	964			800	920			770	903			778	883			838	930
13.			950	986	33	35	866	980			794	919			770	900	5	4	759	875			841	931
14.			989	983	T.	T.	869	983			802	921			772	903			753	872			856	941
15.			915	986			845	953			823	922			781	903			755	867			875	944
16.	6	7	934	984			832	970	3	4	812	932	18	18	783	903			767	877			904	964
17.			934	982			848	963	2	1	813	938	6	6	781	903			779	873			943	1000
18.			901	974			850	968	40	38	814	938			781	909	T.	T.	774	885			941	1019
19.	T.	T.	902	974	8	7	860	980			818	934	6	5	781	910	2	2	772	874			927	1033
20.			899	974	32	28	878	989			802	916			781	903			781	887			903	1010



TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch <sup>1</sup>

1912

Date	April				May				June				July				August				September			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1			1024	1140			4512	3280			6272	6379	3	4	2202	1906	6	6	1576	1438			1128	1123
2			1067	1162			5132	3746			5854	5839	T.	T.	2148	1845			1529	1372			1095	1167
3			1256	1229	5	6	4490	4041			5447	5411	6	8	2096	1800			1484	1336			1066	1077
4	T.	T.	1391	1307		T.	3680	4067			5084	4990	10	10	2131	1800	10	8	1480	1319	8	8	1065	1083
5	10	8	1303	1322			3450	3965			4801	4622			2038	1763	2	2	1476	1311			1042	1061
6			1347	1373			3876	3855	T.	T.	4542	4313			1977	1712	1	1	1447	1298			1042	1043
7			1499	1449			5386	3969	26	27	4435	4111			1925	1659			1411	1267			1035	1038
8			1463	1487		T.	8196	4442	1	1	4168	3865			1854	1618			1367	1254	2	3	1042	1045
9			1677	1559	14	11	9227	5067	6	6	3977	3650			1807	1581	13	10	1342	1232	2	4	1067	1062
10	3	2	1861	1599			7309	5697			3770	3474	1	1	1770	1542			1313	1209	1	1	1080	1087
11																								
12	22	23	1879	1653			7561	6070	2	1	3612	3313	2	1	1771	1515	1	T.	1295	1192	25	20	1134	1116
13	30	32	1755	1701			10510	6384	3	3	3483	3184	19	22	1748	1530	2	2	1320	1199	T.		1079	1119
14			1629	1646			10983	6629	T.	T.	3353	3068	4	4	1697	1519	24	23	1384	1237	T.		1059	1104
15			1530	1602	14	14	9750	7218		T.	3233	2978	16	18	1702	1521	50	48	1634	1360	2	2	1067	1110
16	3	2	1428	1562			8910	7115			3122	2858	36	38	1786	1584	22	26	1496	1372			1067	1112
17	1	1	1439	1620			9365	7372			3006	2737	20	18	1754	1536	T.	T.	1420	1338			1054	1101
18	6	6	1399	1681			13349	8282	24	27	3038	2676	7	4	1680	1509	9	10	1420	1341			1060	1118
19	8	8	1370	1677			16534	10695	1	1	2901	2584	12	16	1659	1506	T.		1362	1307			1071	1124
20	34	32	1360	1684			17458	14571			2790	2474	16	15	1672	1485	6	2	1350	1276			1072	1135
21	18	18	1355	1704			17566	17344			2684	2376			1581	1435	2	2	1317	1255			1057	1141
22																								
23	1	1	1307	1686			17099	21685	T.	T.	2614	2291	30	32	1602	1429			1272	1224			1063	1144
24			1272	1669			15956	23351	54	62	2742	2351	20	13	1647	1450			1224	1193			1091	1164
25			1359	1682			14077	21422	3	4	2628	2274	20	18	1653	1457			1196	1154			1094	1164
26			1645	1826			12051	18069	15	12	2503	2203	32	41	1780	1536			1173	1134	3	4	1086	1173
27	2	2	1584	1950			10538	15261	1	1	2426	2112	T.	2	1658	1501			1151	1116	T.		1082	1164
28			1612	2012			9510	13261	29	22	2413	2078	76	90	2045	1726		T.	1108	1099			1091	1164
29	16	19	1609	2060			8806	11689	16	9	2444	2036	16	18	1899	1734		T.	1143	1105			1096	1164
30			1800	2168			8216	10133	4	4	2314	1967	14	15	1744	1664	2	2	1145	1104			1094	1153
31			1994	2381			7658	8900	34	33	2462	2008	48	35	2036	1659	4	4	1135	1110	T.	1	1091	1154
			2857	2783	1	2	7236	7902	1	1	2323	1957	T.	6	1888	1615	23	24	1203	1155			1106	1164
							6724	7045							1674	1527	1	1	1161	1142				

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1	T.	T.	1085	1416			3605	3375	T.	T.	1916	2183			1448	1649	T.	T.	902	923	22	30	801	863
2	16	18	1513	1371			3480	3001			1894	2142			1384	1595			886	909	4	8	836	888
3	T.	T.	1822	1307	2	2	3328	3763			1870	2109			1335	1535			858	882	15	23	834	904
4			1554	1262			3226	3813	T.	1	1851	2065			1291	1470			818	871	20	14	851	900
5	T.	1	2037	1330			3144	3727	T.	T.	1826	2023	T.	2	1261	1388	4	4	821	876	T.	T.	841	887
6			1455	1406	T.	T.	3022	3599	T.	T.	1805	1979	2	2	1267	1365	1	1	824	834	T.	T.	799	862
7	11	11	2402	1402			2954	3533	52	53	1949	2037	6	12	1249	1362	T.	T.	807	831	12	14	800	852
8	20	23	1997	1568	8	9	2981	3521	24	24	1965	2057	2	4	1223	1330			796	820	30	30	888	905
9	T.	T.	1651	1337			2899	3603	38	45	1953	2092	1	1	1202	1294	4	4	808	830	2	4	876	904
10			1420	1293			2848	3823	62	69	2329	2385	T.	1	1106	1265	16	22	826	849	1	1	837	911
11			1374	1278			2801	3967	10	10	2401	2473			1100	1215	26	20	896	869	4	14	850	919
12			1863	1319			2775	4026	42	45	2421	2649			1070	1164	70	66	1132	1012	4	6	849	914
13			2921	1440	2	2	2744	4015			2328	2736	2	2	1034	1124	13	12	969	974			832	910
14			3906	1602	T.	T.	2709	3974			2209	2747	4	2	1025	1083	T.	T.	898	957	T.		828	890
15			3622	1657			2635	3992			2129	2745	12	12	1030	1079			837	910	4	4	824	892
16			4056	1816	T.	T.	2580	3799	T.	1	2102	2718	T.	1	1042	1077			825	875			817	886
17			3376	1891	1	T.	2514	3635	11	9	2160	2688	9	14	1033	1105	5	6	836	866			813	893
18	20	22	2992	2015			2437	3484	21	19	2197	2664	37	44	1112	1148	16	18	891	894			823	887
19			3443	2147	5	6	2389	3353	1	1	2104	2636	46	48	1203	1203	7	6	881	895			814	889
20			3530	2344			2325	3188			2002	2561	62	65	1382	1301	8	9	885	911			809	882
21	T.	T.	3452	2503			2256	3025	T.	T.	1948	2471	24	21	1289	1286	T.	T.	873	910			824	891
22	10	10	3214	2455			2193	2867	T.	T.	1874	2417	6	6	1265	1282	14	16	839	900	58	60	975	978
23			2902	2262	T.		2133	3755	16	16	1856	3389	13	12	1190	1225	T.	T.	814	871	51	55	949	973
24			2665	2125	T.	T.	2099	2678			1806	3300			1117	1151	36	39	811	890			934	968
25			2528	2061	T.	T.	2056	2678			1727	2178	T.	T.	1059	1096	8	8	885	909	4	4	828	891
26			2797	2230	T.	T.	2023	2505			1653	2080			1027	1063			811	896			939	1021
27			2836	2543	30	34	2144	2621	8	9	1603	1972	T.	T.	996	1024	1	1	855	855	2	4	972	1049
28			3016	2926			2071	2467	16	18	1680	1958			975	1007	1	1	794	842			1009	1045
29			3307	3056	1	1	2003	2675			1576	1837	T.	1	955	989	2	2	792	832	T.	T.	992	1017
30			3509	3235			1970	3316			1496	1724	3	3	949	969	4	6	789	835	6	6	943	998
31					T.		1942	2247					1	1	925	954	1	1	760	826				

1914

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1913-14

Date	October				November				December				January				February				March				
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	
21.			893	965	T.	T.	866	986			802	928			765	903	39	38	799	902			877	987	
22.			889	962			835	971			793	919		8	8	770	903			796	903			854	983
23.			877	962			819	943	4	4	796	919				770	903	12	12	774	896	T.	T.	866	984
24.			876	961	20	20	829	948			785	917		7	6	771	898			761	878	23	22	883	1001
25.			873	951			846	938	4	4	782	909		8	8	781	891	T.	T.	761	868			894	991
26.			851	944			836	938	5	4	792	921		37	36	781	904			768	867			910	1022
27.	T.	T.	851	952			825	938			784	915		94	88	781	913			761	872			961	1084
28.			866	950	2	2	822	938			781	920		12	18	783	908			800	883	T.	T.	954	1106
29.			848	950			813	939			781	917				781	901					8	8	965	1106
30.	T.	T.	856	950	6	6	813	934	T.	1	781	912				775	895					3	4	942	1077
31.	T.	T.	861	950					T.	T.	781	909				776	892							897	1048

1914-15

1.	3	4	993	963			886	987	4	3	658	940			872	974			834	922	5	4	761	912
2.	15	16	1009	977			877	991	2	2	711	945			850	972	14	14	834	913			759	906
3.	76	76	1125	1066			867	986			754	942			836	970	44	43	847	926	2	1	759	903
4.	1	1	1235	1099			854	986			836	929			848	986	T.	T.	834	927	T.	T.	749	901
5.			1030	1049			846	984			796	915	6	6	866	986			811	938			748	881
6.			1024	1014			836	984	10	8	800	918			864	983			788	934			727	893
7.	T.	T.	1019	998			838	984	4	4	824	938			866	989			781	938			729	883
8.			1006	989			836	974	3	2	804	937			861	977			781	934			738	891
9.	9	9	1012	999			831	970	1	T.	787	928	2	3	866	978			781	939	4	4	738	891
10.			998	986			829	973			760	927			866	968			781	937	T.	T.	738	896
11.			992	986			821	975	2	1	796	918			861	958	78	77	781	938	12	10	738	902
12.			975	986			804	971			747	912			852	974	34	32	781	944			732	884
13.	T.		972	979			818	978			681	893			837	969			780	954			729	879
14.			963	972			827	983			532	850	6	4	819	987			763	957	T.	T.	735	877
15.			963	972			816	986			463	832	15	14	817	974			763	935	T.	T.	747	893
16.			963	984			806	984			442	830			813	969	T.	T.	770	943			756	892
17.			962	986			808	980	T.	T.	468	816	T.	T.	802	955	1	T.	761	946			762	894
18.			939	986			795	970	16	15	569	849			802	976			765	943	10	12	772	905
19.			936	986			759	961	52	47	627	873			802	959	10	10	764	938	T.	T.	767	908
20.			931	986			787	955	14	14	687	902			805	958	14	14	770	938			764	891
21.	49	50	1018	1044			740	958			664	904			823	963	12	12	769	938			749	880
22.	3	3	1081	1078			736	952			702	938			828	958			758	938			776	901
23.	60	58	1031	1086			744	950	4	4	774	961			804	957			755	926			804	935
24.	6	6	1015	1100			727	948	12	12	702	982			825	955			744	915			812	938
25.			1023	1098			742	946			728	986	T.	T.	828	945	10	12	749	913	T.		838	967
26.			977	1070			745	947			889	986			832	933	24	26	759	905			855	1002
27.			954	1037			749	947			903	986			820	912			776	908			866	1014
28.			915	1021			737	948	2	2	909	1002			809	900			767	903			841	995
29.			905	1011	2	2	698	950			888	985	50	48	833	909					2	4	830	991
30.			900	1004	T.	T.	685	950			876	977	14	13	834	933							830	988
31.			898	991							868	981	T.	T.	834	925							822	987

1915-16

1			906	903			834	893			760	870			722	869			686	843	20	20	706	884
2			902	903			834	889			735	867			715	867	T.	T.	685	843			689	873
3			906	903			843	891			729	867			706	867	2	2	679	849			677	857
4	6	6	900	903			837	891	3	3	756	872			706	872	3	4	685	855			704	872
5			904	903			834	891	15	15	759	892			718	867	2	2	685	852	50	46	710	880
6			902	903	36	36	852	912			759	879	9	8	717	873			677	843			706	888
7			891	899	6	6	875	932			759	879			710	867			678	851			708	891
8			878	879			845	926			742	877			706	867			685	854			825	946
9			880	880	28	29	849	923			739	867	3	3	717	868			677	846			1021	1075
10			897	894	101	106	866	938			744	867	8	8	727	884			684	849			1161	1146
11		T.		903			845	933			741	867	22	21	727	879			694	859			1253	1149
12		T.		903			819	906			727	867			719	870			702	859			1367	1154
13				903	T.	T.	831	913			713	867			710	867			702	855	3	4	1487	1206
14			888	909			824	903	4	4	728	867	8	9	706	867			703	845			1428	1229
15	18	18	901	906			821	903	46	41	754	876			706	867			714	849			1248	1174
16	12	11	944	925	T.	T.	813	903	T.	T.	745	867			706	867			739	850			1275	1180
17			944	940			813	900			727	867	50	51	706	863			761	852			1364	1215
18			908	927			806	897			726	865	63	65	706	867			773	861			1418	1228
19			894	922			802	893			709	855	30	30	706	876			777	857			1461	1305
20			877	911			804	901			711	846	2	5	706	867			774	852			1565	1418
21			874	910			817	902			698	855			702	860	2	3	754	855	5	6	1652	1504
22			874	903			808	904			706	855			687	850	6	6	727	860	9	8	1580	1471
23			872	903			795	903	2	2	704	861			692	855			727	857	34	32	1502	1513
24			866	903	19	17	792	903			706	865	T.	T.	701	857			720	857	T.	T.	1415	1510
25			866	903			791	903	2	2	699	849	8	8	706	861			709	861			1268	1434
26			854	902			777	883	16	16	702	867	12	12	706	867	10	10	718	862			1221	1376
27			844	900	6	6	787	895			709	866	70	69	706	867	14	16	721	869	T.	T.	1191	1369
28			838	903			763	881	T.	T.	710	855	47	46	706	874	6	7	710	877	T.	T.	1218	1408
29			839	903			763	880	14	14	717	855	6	6	706	867	2	2	706	869	T.	T.	1221	1432
30			834	899	T.	T.	770	890	56	55	717	856	8	8	706	870					46	38	1215	1385
31			834	903					117	116	721	869			692	854							1190	1367



TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1914																								
Date	April				May				June				July				August				September			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
21.....	T.	T.	2397	1693	2	1	5213	7306	-----	-----	2040	1712	12	10	1592	1216	22	22	1180	951	2	2	1099	998
22.....	28	25	2355	1715	19	20	5153	6889	-----	-----	1981	1641	T.	T.	1507	1159	26	23	1252	988	-----	-----	1024	970
23.....	6	6	2198	1785	34	39	5336	6639	-----	-----	1908	1581	2	1	1444	1114	T.	T.	1145	961	-----	-----	1005	959
24.....	T.	T.	2138	1844	18	20	5705	6698	-----	-----	1859	1527	3	3	1455	1101	T.	1	1069	931	-----	-----	1006	956
25.....	-----	-----	2492	1919	-----	-----	5528	6702	-----	-----	1800	1483	53	62	1576	1214	2	2	1070	909	-----	-----	1011	954
26.....	T.	T.	2720	1908	-----	-----	5626	6722	-----	-----	1718	1423	12	11	1518	1194	12	14	1103	918	T.	-----	996	947
27.....	7	6	2725	1897	4	4	5478	6623	-----	-----	1691	1386	10	8	1445	1162	1	T.	1074	899	-----	-----	993	948
28.....	10	10	2616	1901	T.	T.	5205	6297	-----	-----	1644	1350	23	24	1477	1164	4	2	1047	886	-----	-----	976	957
29.....	-----	-----	2636	1996	-----	-----	4865	5725	T.	T.	1619	1303	6	10	1470	1172	12	14	1079	913	T.	T.	985	968
30.....	T.	T.	2714	2064	-----	-----	4584	5236	46	47	1814	1373	34	34	1457	1187	5	4	1083	911	3	4	996	965
31.....	-----	-----	-----	-----	-----	-----	4367	4786	-----	-----	-----	-----	28	10	1482	1156	4	2	1064	915	-----	-----	-----	-----

1915																								
1.....	-----	-----	850	1004	29	28	3687	2585	10	9	4091	4605	-----	-----	1693	1449	T.	T.	1081	920	-----	-----	730	699
2.....	-----	-----	915	1037	1	T.	3354	2484	-----	-----	3914	4353	T.	-----	1646	1403	T.	T.	1068	894	2	2	732	701
3.....	-----	-----	915	1059	-----	-----	2995	2446	5	3	3756	4125	-----	-----	1618	1361	-----	-----	1034	873	24	26	822	754
4.....	-----	-----	983	1101	1	1	2692	2415	20	22	3645	3916	4	4	1600	1334	-----	-----	900	855	22	24	870	787
5.....	15	14	915	1120	13	14	2486	2420	15	16	3671	3780	2	2	1573	1309	-----	-----	996	837	T.	T.	834	772
6.....	42	40	836	1117	28	28	2404	2369	1	1	3495	3630	-----	-----	1479	1262	64	58	1147	908	-----	-----	805	769
7.....	T.	T.	953	1146	-----	-----	2707	2372	-----	-----	3369	3485	-----	-----	1424	1226	-----	-----	1187	926	-----	-----	788	757
8.....	T.	T.	933	1149	T.	T.	2752	2379	T.	T.	3308	3346	-----	-----	1391	1196	3	3	1075	907	-----	-----	758	739
9.....	9	9	891	1159	T.	-----	2935	2437	-----	-----	3246	3219	-----	-----	1328	1152	-----	-----	995	867	-----	-----	735	720
10.....	-----	-----	964	1162	-----	-----	3481	2747	-----	-----	3176	3127	-----	-----	1297	1122	-----	-----	971	846	-----	-----	704	695
11.....	-----	-----	1033	1170	-----	-----	4640	3329	-----	-----	3085	3019	-----	-----	1260	1086	10	12	999	853	-----	-----	688	689
12.....	-----	-----	1079	1169	-----	-----	6052	4316	-----	-----	3014	2912	T.	T.	1259	1065	-----	-----	988	830	T.	T.	679	670
13.....	31	33	995	1192	T.	T.	7780	6365	-----	-----	2925	2806	25	22	1325	1092	T.	1	950	809	54	74	852	826
14.....	2	2	1190	1327	T.	T.	6845	6662	-----	-----	2852	2697	-----	-----	1301	1051	4	4	974	820	5	5	806	774
15.....	22	21	1096	1268	-----	-----	7163	6841	-----	-----	2780	2608	-----	-----	1219	1018	42	50	1093	900	30	29	888	851
16.....	44	40	981	1235	-----	-----	7551	6880	-----	-----	2700	2518	-----	-----	1177	988	10	13	1063	895	1	1	862	844
17.....	87	79	987	1294	16	17	7843	6948	-----	-----	2628	2433	-----	-----	1129	962	-----	-----	984	879	-----	-----	847	839
18.....	-----	-----	1078	1451	34	34	8029	7552	T.	T.	2579	2331	T.	T.	1084	942	-----	-----	915	846	9	10	860	851
19.....	1	1	1446	1656	18	18	8031	7997	-----	-----	2515	2255	-----	-----	1063	920	-----	-----	887	811	4	6	869	863
20.....	-----	-----	1593	1726	4	4	7570	8090	-----	-----	2425	2164	3	4	1077	922	-----	-----	854	785	-----	-----	851	855
1.....	4	3	1613	1680	7	8	7162	7610	-----	-----	2337	2082	14	12	1072	907	-----	-----	837	769	T.	T.	840	851
2.....	T.	T.	1715	1550	-----	-----	6622	6890	-----	-----	2272	1985	7	7	1090	907	8	8	850	766	-----	-----	839	848
3.....	32	29	1805	1477	-----	-----	6090	6389	-----	-----	2187	1913	2	2	1077	889	34	36	964	840	-----	-----	838	849
4.....	20	18	1834	1554	-----	-----	5727	5988	-----	-----	2115	1845	4	3	1104	907	3	4	909	810	29	28	896	883
5.....	T.	T.	1967	1647	-----	-----	5601	6012	-----	-----	2052	1788	56	54	1217	968	2	2	867	809	88	86	1272	1094
6.....	2	2	2192	1755	T.	-----	5558	6457	-----	-----	1989	1719	92	89	1544	1137	-----	-----	845	800	T.	T.	956	998
7.....	-----	-----	2680	1895	-----	-----	5385	6609	-----	-----	1936	1664	21	20	1494	1146	-----	-----	821	785	-----	-----	912	961
8.....	-----	-----	3100	2066	-----	-----	5107	6435	-----	-----	1869	1594	T.	-----	1249	1067	T.	T.	784	761	9	8	900	923
9.....	45	44	4191	2685	2	2	4838	5941	-----	-----	1800	1541	-----	-----	1184	1015	T.	T.	786	752	9	8	922	922
10.....	28	28	4225	2723	T.	T.	4626	5397	-----	-----	1736	1493	-----	-----	1131	975	-----	-----	765	730	6	6	916	918
31.....	-----	-----	-----	-----	-----	-----	4333	4933	-----	-----	-----	-----	-----	-----	1096	942	-----	-----	750	718	-----	-----	-----	-----

1916																								
1.....	T.	T.	1145	1347	-----	-----	4198	3103	-----	-----	3010	3263	-----	-----	1288	1071	-----	-----	1627	1272	-----	-----	1020	961
2.....	-----	-----	1129	1324	T.	T.	3621	2993	-----	-----	2846	3032	-----	-----	1244	1052	18	16	1406	1171	-----	-----	984	932
3.....	-----	-----	1106	1347	-----	-----	3463	2804	-----	-----	2735	2857	-----	-----	1219	1023	30	33	1596	1272	18	18	1019	933
4.....	51	51	1091	1374	-----	-----	3916	2952	10	8	2693	2728	-----	-----	1207	996	-----	-----	1428	1205	3	4	990	934
5.....	9	8	1127	1400	-----	-----	4817	3390	-----	-----	2580	2589	T.	T.	1209	987	47	54	1383	1224	39	46	1129	1015
6.....	T.	T.	1112	1425	-----	-----	6067	4035	-----	-----	2507	2457	T.	T.	1178	963	29	32	1450	1262	6	8	1079	1009
7.....	-----	-----	1065	1414	-----	-----	7312	4662	-----	-----	2456	2337	T.	T.	1169	950	7	6	1468	1238	T.	T.	991	958
8.....	-----	-----	1063	1422	-----	-----	8214	5262	-----	-----	2395	2242	18	21	1232	983	-----	-----	1323	1151	4	4	954	923
9.....	-----	-----	1161	1471	-----	-----	8889	6075	-----	-----	2330	2141	120	131	1679	1228	6	6	1256	1098	38	34	1067	972
10.....	-----	-----	1316	1584	-----	-----	9534	7299	-----	-----	2253	2097	12	14	1452	1123	2	2	1213	1054	2	2	1032	973
11.....	9	10	1546	1699	-----	-----	9697	8639	-----	-----	2185	2014	T.	1	1339	1101	5	2	1153	1005	33	32	1141	1031
12.....	6	6	1768	1760	-----	-----	9292	9253	-----	-----	2144	1923	1	1	1324	1067	10	10	1191	1009	-----	-----	1046	988
13.....	32	30	1776	1782	8	7	8635	10157	-----	-----	2099	1862	13											

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1916-17

Date	October				November				December				January				February				March			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1.	42	42	1026	1007			1283	1450			952	1105			770	988			743	952	4	3	751	938
2.	12	14	1038	1033			1266	1446	10	10	950	1115			770	988			749	952	27	26	751	937
3.	1	3	998	1011			1261	1427			963	1105			786	988			749	982	3	4	735	926
4.	1	1	983	990			1249	1425			970	1105			792	986			736	968			727	927
5.	26	27	994	1018			1243	1415			984	1106			767	986			740	964	4	3	732	937
6.	36	37	1517	1319			1234	1413			989	1114			755	971	14	10	759	972			732	923
7.	36	37	1172	1207	16	16	1236	1413	3	4	983	1102			769	970	T.	1	747	962	T.	T.	727	907
8.	16	18	1172	1205			1212	1390			824	1082			772	986			766	944			719	926
9.	38	39	1260	1291			1196	1372			762	1069			781	986			772	938			717	926
10.	30	31	1459	1405			1174	1357			753	1056			779	986			772	938	31	32	724	926
11.	84	86	2186	2072			1169	1334	4	4	701	1012			770	986			775	938	34	34	727	926
12.			1789	1990	T.	T.	1164	1330			732	1008			770	988			763	938	T.	T.	727	926
13.	3	3	1530	1767			1155	1305	16	16	714	989			767	986	T.	T.	759	942			727	921
14.	72	70	1446	1668			1155	1268	2	2	787	986			756	984	12	9	759	950			723	919
15.	T.	T.	1348	1569			1155	1236			820	988	41	40	739	986			754	938	12	13	727	924
16.			1376	1563			1155	1226			817	1001	42	41	738	986			749	940			717	906
17.			1420	1589			1155	1213	2	2	802	1018	T.	T.	741	974	6	6	749	950			710	903
18.	18	18	1428	1616			1155	1212			802	999			729	966	36	36	758	960			758	908
19.			1496	1624			1155	1212	24	23	802	1017			745	966	8	8	747	949			800	924
20.			1495	1593	2	2	1147	1212	1	1	802	1033	85	95	761	986	1	T.	739	938			823	934
21.			1470	1582	T.	T.	1122	1212			802	1024	T.	T.	776	986			749	948			855	943
22.			1469	1602			1093	1204	3	3	793	1031			759	986	T.	T.	749	954	8	8	792	938
23.	13	12	1472	1627			1067	1189	23	24	792	1033	2	2	759	978			741	949			761	931
24.	15	14	1468	1628	2	2	1065	1176	7	6	792	1033			747	967	T.	T.	743	944			804	948
25.			1405	1583			1028	1156	36	39	786	1033			739	962	T.	1	777	950			866	977
26.			1376	1567			983	1147	T.	T.	764	1033			751	962	T.	T.	765	943			825	966
27.			1362	1544			993	1129			751	1024			768	959			757	938			851	970
28.			1333	1543			980	1123			732	1010			751	970	T.	T.	759	938			1020	1031
29.			1318	1532			947	1106			727	1010			753	974							1270	1090
30.			1291	1507			945	1105	12	11	730	989	2	2	753	974					10	10	1100	1109
31.			1280	1488					4	4	771	998	8	8	759	971					26	26	976	1069

1917-18

1.	1	1	1072	1033			960	1033			845	1033			783	986			744	951			650	965
2.			1043	1031			954	1033	8	8	845	1033			776	986			721	938			652	954
3.			1045	1019			952	1033	16	15	862	1046			781	995			713	922			673	980
4.			1042	1021			941	1033			856	1037	6	4	773	998			713	926			682	986
5.	T.	T.	1042	1023			943	1033	T.	T.	854	1033	1	1	772	998			726	934	1	2	687	987
6.			1049	1025			953	1039	4	3	838	1033	6	6	778	986			709	930	3	3	691	1009
7.			1054	1010			956	1048	T.	T.	837	1033	6	6	764	986	11	11	719	932	8	8	691	1013
8.			1048	1021	6	6	958	1057	T.	T.	828	1032			774	986			726	938	92	89	689	1033
9.			1055	1028			923	1035			833	1012	22	21	774	986			707	931			683	1005
10.			1057	1019			906	1033			839	1005	5	5	777	986			717	948	T.	T.	697	986
11.			1053	1021			909	1045			837	1012	2	1	763	996			706	950	2	2	706	1006
12.			1051	1028			903	1045			831	1017	1	1	773	986			709	954	51	52	724	1032
13.			1044	1033	1	1	907	1045			828	993	6	4	768	993	7	6	725	970	24	25	726	1042
14.			1051	1033	56	56	914	1055			834	1000	1	1	760	976			708	960			706	1013
15.			1044	1036	36	38	929	1069	T.	T.	834	1003	T.	T.	761	974	20	18	712	968			693	987
16.			1044	1044			907	1060			805	992	2	2	759	979			706	950			686	986
17.	T.	T.	1041	1035			897	1045			799	989	1	1	739	958			706	940			696	986
18.			1014	1044	2	1	884	1045			793	985	12	12	756	974	14	14	706	954			698	986
19.			1001	1037			872	1051			802	991	3	3	749	974	2	2	706	965	2	1	722	996
20.			1008	1033			870	1056			797	988	1	1	735	974			705	952	6	6	742	1023
21.			999	1035			875	1041			792	998			700	958	1	T.	706	950	15	14	744	1032
22.			991	1045			876	1045			792	990			673	938	4	4	706	966	T.	T.	731	1006
23.			984	1042			878	1045			792	986			667	938	4	2	714	994			739	1031
24.	6	6	983	1047			883	1049			792	989			723	946	38	37	710	990	1	1	743	1038
25.	12	12	1012	1066	5	4	884	1057			792	990	4	5	748	952			708	986	2	2	740	1033
26.	T.	T.	1013	1065	1	1	884	1048			790	986	27	26	761	962			702	984			743	1039
27.			985	1060			861	1047			792	986	22	24	765	974	106	84	672	986	2	1	752	1057
28.	T.	T.	977	1057			846	1035			792	986			749	978			663	984	1	1	743	1061
29.			959	1036			862	1033			792	986			743	974					T.	T.	745	1046
30.			963	1033			858	1033			793	986	T.	T.	750	976							805	1101
31.			960	1033							783	986	2	4	749	982							836	1133

1918-19

1.	T.	T.	756	796			742	796			727	772			716	750	24	24	685	725			674	736
2.	T.	T.	758	796			738	796			727	772			706	748	11	10	685	725			718	742
3.			742	796			730	796			727	772			706	748			694	725	22	20	700	748
4.			746	796	34	34	751	796			720	772			706	750			695	725			709	748
5.			742	796	75	72	772	829			727	766			706	782	6	6	691	732	3	4	697	736
6.			751	796	49	46	787	831			736	771			706	779	14	13	685	741			688	741
7.	T.	T.	741	796	4	3	759	831	15	15	729	780			690	779	6	6	685	736	6	6	685	736
8.	8	8	750	797			759	831	16	16	727	796			702	796			685	733			688	727
9.	2	2	765	798			751	814	2	2	727	780			706	776			685	725	6	8	687	725
10.	6	6	759	796			741	808			727	772			698	772			685	730			681	725
11.			759	796			734	808			720	772			706	771			687	743			680	727
12.			751	796			736	800	8	8	722	772	6	5	702	760	8	8	695	748	T.	T.	706	736
13.			748	796			731	798			718	772	T.	T.	696	760	4	4	686	748	1	1	722	746
14.			737	796			753	808			713	765			690	759			676	748	8	8	710	748
15.	T.	T.	748	796	3	4	758	808			722	760			695	748			676	731			691	739
16.	8	8	769	801			749	808	20	18	718	760			697	748			675	742			681	736
17.	12	14	792	808			738	796	13	11	726	766			695	748			669	738			702	748
18.	20	18	795	818			727	796	2	2	717	772			709	754	20	19	674	726			749	767
19.	18	16	865	871	24	24	730	796			712	765	1	1	703	752	23	21	681	742			794	812
20.	16	16	861	888	13	14	738	803	6	4	717	759			699	748			683	744	16	15	765	796

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

Date	April				May				June				July				August				September			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1	T.	T.	856	1040	T.	T.	2020	3799	10	10	12842	17782			3332	2824	30	30	1651	1339	T.	T.	1148	935
2	6	6	800	1011	7	8	3221	4309			12368	16417			3206	2665	8	12	1627	1301			1100	924
3			789	1006			3783	4865			14555	16400			3110	2532	2	2	1576	1254			1070	908
4			775	990	8	8	5263	5117			16300	17369			3009	2419	4	4	1551	1241	T.	T.	1050	879
5			836	1016	42	38	4678	5271	2	2	13658	16652	2	2	2932	2342			1518	1201	T.	T.	1027	858
6	2	2	875	1028	T.	T.	4060	4989			13869	20065	4	4	2844	2279			1450	1148	1	1	985	881
7			901	1055	2	1	3473	4704	T.	T.	12418	17814	2	1	2777	2164	12	10	1424	1113	32	31	1083	924
8			1026	1118	24	21	3172	4323			13066	16859	10	10	2711	2106			1344	1083	2	2	1135	947
9	30	30	1166	1197	32	30	3047	4085			12371	16654	1	1	2675	2085	T.	T.	1317	1080	19	6	1171	948
10	3	4	1071	1227	22	22	3065	3949			11808	16459	5	6	2539	2006	12	13	1353	1085	4	4	1092	938
11			1094	1203	8	8	3099	4072			11372	15289			2440	1917	16	16	1486	1152	8	8	1114	967
12	T.	T.	1278	1225	2	2	3475	4335			10434	13656	4	2	2326	1838	22	20	1573	1222	T.	T.	1047	954
13			1438	1274			4570	4992			9504	11676			2224	1752	4	2	1499	1216	20	23	1124	962
14			1710	1336	T.	T.	8968	8212			8940	10078			2138	1673	T.	T.	1414	1181	1	1	1098	983
15	4	5	1821	1341	12	14	18163	8031			8308	8502			2073	1597	9	9	1367	1139			1067	947
16	52	52	1872	1326			21051	11520			7777	7056			2015	1553	36	40	1524	1175	1	1	1068	940
17	142	140	1807	1302			23099	14268	T.	T.	7340	7206	T.	T.	1947	1510	2	3	1444	1149			1083	942
18	92	90	1358	1252			23602	16181			6926	6633	32	28	1987	1511			1383	1146			1007	934
19	T.	T.	1280	1230	2	4	18295	15861	T.	T.	6546	6160	26	21	2061	1527			1278	1112	4	5	1023	923
20			1227	1249	3	4	14116	13934			6178	6744	6	4	1995	1492	T.	T.	1276	1069	T.	T.	1025	950
21			1395	1387	T.	T.	13872	12564	T.	T.	5833	5370	3	4	1890	1442			1231	1030			1019	936
22			2082	1746	T.	T.	14945	12928			5520	4991			1799	1384	4	2	1193	1011	4	4	1027	952
23			2968	2408	40	37	13238	12633			5218	4672	14	16	1827	1381	1	1	1188	990	12	13	1068	990
24			4280	3151	T.	T.	12703	12143			4918	4336	2	3	1840	1376	1	1	1181	964	6	8	1063	969
25			5705	3899	2	2	12672	12743			4605	4082	30	31	1799	1382			1137	958	1	1	1050	1009
26	T.	T.	6336	4730	T.	T.	11811	12658			4303	3819	4	5	1827	1366			1101	935			1059	1007
27	32	32	5283	4794	T.	T.	14326	12801	1	1	4114	3577	1	3	1739	1360	26	26	1179	965			1054	1018
28	39	37	3712	4545	T.	T.	13495	13610			3874	3366	16	21	1758	1376	1	1	1193	976			1057	1016
29	100	95	3038	4202	T.	T.	15010	14715			3691	3169	28	32	1804	1433			1131	966	T.	T.	1053	1018
30			2770	3740	1	1	15155	16689			3484	2994	2	2	1771	1419	10	6	1125	961	6	6	1057	1023
31					24	22	13427	17059							1634	1330	10	9	1190	965				

1918

1	1	1	817	1157	T.	T.	1440	1080			1174	1135			655	739	T.	T.	604	635	3	2	657	706
2	1	1	843	1174	T.	T.	1437	1082			1136	1112	15	16	725	725	42	56	668	689	2	2	637	702
3			851	1172	T.	T.	1518	1117	T.	T.	1133	1105	38	31	815	776	T.	T.	663	699	28	29	720	780
4	2	2	808	1133	T.	T.	1532	1130	T.	T.	1129	1098	1	T.	769	779	2	2	638	693	10	10	721	768
5	1	1	792	1096	T.	T.	1617	1139	T.	T.	1118	1079	24	2	761	760	T.	T.	619	681	7	6	697	754
6			801	1067			1679	1168			1069	1065	2	2	761	800	6	4	627	679			662	736
7	T.	T.	798	1047	T.	T.	1586	1198	T.	T.	1091	1043	33	31	809	840	2	4	610	668			656	712
8			892	1084	1	1	1617	1211	T.	T.	1076	1038	10	10	776	822	T.	T.	597	653	41	42	739	758
9			964	1128			1580	1226			1059	1023	30	32	852	858	24	29	670	695	102	106	1192	1000
10	T.	T.	924	1113	T.	T.	1500	1242			1050	1005	6	8	799	844	20	20	665	705	64	64	1649	1327
11			1015	1158	1	1	1438	1208	T.	T.	1035	996	18	18	787	842	T.	T.	644	698	T.	T.	1051	1073
12	49	48	1006	1161			1375	1164	16	16	1034	962	19	20	899	886			593	666			866	925
13	6	6	994	1204	T.	T.	1365	1167	3	2	1014	975	20	22	858	885	56	57	754	768			807	866
14	T.	T.	956	1206			1338	1203	6	2	1018	940	65	66	855	887	54	54	640	665			765	833
15			958	1191			1309	1181	16	20	986	970	40	38	1288	1035	1	1	698	760			745	810
16	T.	T.	970	1163			1304	1180			924	915	5	8	853	865			698	712	36	44	805	858
17	T.	T.	1027	1107			1291	1208			896	888			791	872			627	698			797	866
18			1019	1087			1217	1217	2	1	873	876			729	799			612	668			763	846
19	2	2	973	1086			1268	1244	12	5	908	868			702	776			606	657			765	834
20			991	1013	T.	T.	1266	1284	14	14	892	883	6	4	735	780	T.	T.	596	647	T.	T.	751	828
21			1000	1008	T.	T.	1263	1310	5	4	908	889	T.	T.	725	782	31	32	673	702			752	813
22			1035	1049			1240	1309	12	10	1038	905	8	8	716	782	16	22	706	747			751	806
23	T.	T.	1150	1099			1219	1285	15	16	898	880	1	1	694	757	T.	T.	665	716	14	13	772	810
24			1292	1155			1210	1261	1	1	866	875	28	24	728	776	T.	T.	608	687			759	808
25			1421	1163			1213	1231	8	6	843	866			700	772	T.	T.	592	674			744	808
26	T.	1	1504	1167			1188	1219			815	838			647	743	T.	1	599	666			752	806
27	1	1	1464	1138			1175	1208			765	795	1	2	648	738	2	1	596	655	T.	T.	752	806
28			1421	1126			1175	1191			728	764	T.	2	633	717	10	11	636	671			755	796
29			1429	1107	T.	T.	1173	1163			716	754			620	681	6	7	686	693			755	796
30	T.	T.	1381	1075	12	11	1181	1154			675	732	4	4	603	655	T.	T.	631	679			745	796
31							1220	1166					8	7	624	653	33	35	663	698				

1919

1	T.	T.	877	950			7092	4482	2	2	4393	4175	18	11	1737	1336	10	11	1377	1074			819	870
2			996	968	19	22	7623	5107			4163	3903	8	8	1770	1323	17	23	1361	1104			787	853
3	T.	T.	989	1005			7336	5582			3955	3686	24	20	1747	1319	13	3	1310	1096			783	836
4			1140	1113			7862	6017	T.	T.	6732	3448	T.	T.	1605	1302	T.	T.	1235	1050			756	829
5			1209	1256			8775	6557			3510	3202			1601	1253			1191	1017	8	7	779	809
6	35	34	1179	1284			9549	7224	T.	T.	3327	2986	16	17	1588	1236	T.	T.	1154	998	8	8	545	590
7		4	1022	1152	8	6	9368	7574		1	3214	2802			1543	1212	T.	T.	1189	1008	3	3	850	890
8	22	20	946	1095			8666	8019	52	56	3310	2756	T.	1	1514	1179	T.	T.	1126	975	2	3	837	893
9	10	8	878	1033	12	14	7996	7612		4	3202	2647			1479	1154	2	2	1125	978	T.	T.	798	868
10			883	1030	6	8	7654	7050	T.	T.	2991	2497			1461	1108	10	6	1103	960			787	857
11			1063	1165			7256	6879			2864	2369	8	7	1482	1093			1067	949	12	16	768	870
12			1092	1279			6914	7086			2750	2272	52	52	1551	1120			997	920	18	23	350	919
13	T.	T.	1469	1554			6833	7307	T.	T.	2638	2179	21	21	1744	1205			976	926	56	60	988	998
14			1482	1664			7125	7836	T.	T.	2578	2062	57	52	1811	1246	12	14	1018	950	1	2	918	964
15			1412	1655	T.	T.	7294	9105	1	1	2495	2027	88	84	2036	1356			998	925			847	952
16			1452	1652			7136	10754			2449	1971	12	19	2041	1341	1	1	953	910	T.	T.	351	926
17			1618	1794			6643	11259	8	8	2393	1921	1	1	1636	1262			942	909	6	6	864	923
18			1982	1952			6721	11097	2	2	2343	1869	4	3	1535	1194	T.	T.	934	904	4	8	808	916
19			2521	2291			6522	10676			2283	1815	22	22	1569	1187	6	8	919	906	12	14	893	922
20			3182	2606	T.	T.	6414	9753	2	2	2219	1756	T.	T.	1498	1161			873	896			870	918

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1918-19																								
Date	October				November				December				January				February				March			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
21	T.	T.	844	887	T.	T.	738	796	1	1	717	748			695	748	32	28	674	739	94	82	755	796
22			792	805	14	16	738	796	24	23	713	763			695	748	1	1	675	744	40	36	731	787
23			763	834	14	14	738	796	1	1	706	768			695	748	8	8	685	738	14	10	706	775
24	4	5	772	831	16	16	738	796			699	753			695	748	6	6	687	732	30	29	701	767
25	T.	T.	780	831	7	7	736	796			695	748			695	748			678	729	T.	T.	704	761
26			748	822			727	796			701	748			689	748	1	1	682	729			709	765
27			739	808			727	796			707	748			685	740	22	19	683	743			706	774
28	12	11	762	820			729	784			712	748			683	736			671	747	20	22	718	774
29			755	813			738	782	2	2	717	748			686	729					2	4	760	835
30			741	808			729	772	78	78	724	748			694	725					T.	T.	842	888
31			741	797					4	4	727	765			685	725					5	4	829	884

1919-20																								
1			871	902			866	903			842	905			790	865			759	843	2	1	759	843
2			866	896			868	893			834	903			781	855	12	10	758	843	22	22	759	852
3	5	6	878	901			870	903			834	903			781	855			750	841	T.	T.	759	851
4			884	906			866	896	T.	T.	833	903	28	28	781	857	54	52	758	842			743	847
5	6	5	885	908	T.	T.	868	903	42	40	828	903	4	4	781	864			749	835	6	5	738	853
6	T.	T.	897	903			853	901			834	907	10	10	781	855			749	834			738	848
7	71	69	915	920	56	56	850	897			834	903	16	14	781	861			749	837			733	834
8			983	984	54	54	866	915	20	21	834	908			768	843	47	48	750	843			724	833
9	1	1	942	981	17	18	866	912			826	894			759	831			759	843	T.	T.	741	839
10	T.	T.	932	960			857	903			813	891			759	842			758	835	16	19	749	843
11			919	938			857	903	T.	T.	813	889	T.	T.	759	836			749	845	T.	T.	744	848
12	10	8	932	955			845	901	23	18	819	889			763	847			751	834			738	849
13	T.	T.	906	943			835	891			808	892			759	840			758	831			756	879
14	2	3	899	938			834	890			800	877			759	841			747	835	T.	T.	780	903
15			902	932			834	891			796	867			759	843			738	825			761	896
16			874	910			840	880			798	867			759	851			738	827	T.	T.	753	901
17			875	903			834	887			792	869			759	853			736	831	11	8	759	910
18			873	904			834	898			792	879			759	834			730	830	6	4	757	905
19			869	901	6	5	849	903			792	871			759	843			742	825			775	944
20			863	901	23	20	849	904			789	867			767	852	8	8	749	828			838	1032
21			865	893			845	900			792	867			770	845	8	9	752	831	13	14	898	1162
22			864	882			827	881			792	867	T.	T.	770	855	15	16	764	856	44	46	881	1213
23			868	891			826	891			792	867			763	843	2	2	781	862	22	24	857	1164
24	27	28	883	905			825	891			787	847			759	839	3	2	772	853			830	1106
25	38	38	913	938	1	1	834	891			792	867			759	840			762	842	T.	T.	808	1076
26	33	37	898	938	122	126	837	899			792	867			759	837			759	831	26	24	807	1070
27	T.	T.	893	938	140	135	851	914			792	867			759	854			759	831	17	16	818	1065
28			866	912	68	60	838	915			792	867			759	849	1	1	758	837	T.	T.	793	1043
29			868	903			840	915			792	867			759	858							775	1039
30			876	903	T.	T.	834	903			792	862			759	847							775	1019
31	4	4	866	905							792	867			759	843					8	6	797	1022

1920-21																								
1	1	1	1024	1130			992	1203			911	1177	T.	T.	868	1106	T.	T.	834	1045			1047	1528
2			1023	1129			974	1203			925	1168			866	1103			834	1036			1062	1685
3			1023	1121			973	1211	4	3	931	1167			866	1093			837	1044			1159	1899
4	T.	T.	1014	1116			968	1202			913	1163	T.	T.	866	1098	15	16	845	1043	18	18	1170	2119
5			1019	1126	47	46	980	1205	4	3	909	1165			866	1093	13	12	843	1052	T.	T.	1100	2233
6	T.	T.	1022	1120	76	76	995	1215			909	1141	2	2	870	1093	12	12	834	1050	T.	T.	1061	2272
7			1022	1114	58	55	1004	1213			909	1132	T.	T.	866	1088			834	1052	1	1	1023	2243
8			1021	1120			1005	1235			909	1150	T.	T.	866	1087			826	1047	T.	T.	993	2103
9			1027	1127			1020	1224			908	1129			866	1076			822	1036			949	1966
10	4	4	1016	1135			1010	1226			904	1114			866	1068			819	1032			919	1863
11			1012	1126	3	4	1014	1224	6	6	907	1134	2	2	866	1061			855	1102			923	1814
12			1018	1116			996	1221	58	72	914	1156	4	4	866	1068			864	1144	T.	T.	917	1825
13	26	24	1015	1137	T.	T.	988	1213			905	1137	4	4	866	1059			858	1144	T.	T.	926	1832
14	26	24	1059	1281			972	1201			909	1138			854	1057	2	2	856	1146	2	3	929	1848
15			1057	1204			963	1180			891	1115			859	1084	14	15	866	1116	22	22	936	1867
16			1041	1186			963	1173			890	1113			858	1125			840	1105			970	1887
17			1031	1191			963	1186			904	1122	T.	T.	856	1107			834	1090			1062	2025
18	T.	T.	1024	1191			950	1190			902	1124	38	38	863	1093			834	1087			1129	2189
19	68	68	1027	1210			963	1189	15	15	888	1109												

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued  
1919

Date	April				May				June				July				August				September			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
21	94	82	3919	2846	T.	T.	6275	9024	T.	T.	2167	1714			1408	11.3			870	885			854	899
22			5188	3134	38	38	6398	8351	T.	T.	2093	1667	T.	T.	1364	1077	T.	T.	843	869			863	897
23	42	42	5069	3438	6	5	6379	7768		6	2085	1637			1326	1049			823	864			872	894
24	19	18	5044	4120	2	2	6148	7223	T.	T.	2026	1592			1310	1028	T.	T.	821	858			873	898
25	37	39	5791	4539	T.	T.	6091	6808	T.	T.	1948	1543	18	22	1347	1036	1	1	806	859	T.	T.	877	896
26	8	14	5180	4609	16	16	6007	6422		6	1926	1509	1	2	1330	1024	2	3	822	862			881	896
27	22	23	4556	4506	1	2	5826	5959	T.	T.	1874	1475	T.	T.	1292	1011	T.	T.	826	869	8	8	886	891
28	10	10	4225	4281	10	10	5337	5475		2	1855	1440	40	52	1409	1059	T.	T.	807	864	5	5	910	909
29			4336	4103	8	8	5138	5084	T.	T.	1781	1404	2	2	1359	1045			776	850	T.	T.	886	903
30			5578	4183	2	2	4892	4724	T.	T.	1758	1362	14	16	1370	1060	8	8	772	831			876	900
31					T.	T.	4680	4435					27	29	1403	1072	30	27	859	868				

1920

1			798	1018			2368	3207	T.	T.	11140	11486			1998	1814	28	32	1432	1265			949	994
2	3	3	785	1014			3351	4119			9853	9934	T.	T.	1947	1773	2	2	1427	1252			910	983
3			789	1009			4577	4896	T.	T.	8732	8968	1	1	1930	1744	3	2	1353	1211	T.	T.	911	988
4			771	992			5404	5280	T.	T.	7879	7702			1880	1702	T.	T.	1328	1186	T.	T.	930	993
5	T.	T.	777	1014			6308	5731	2	2	7136	6872			1793	1657	10	10	1300	1192	23	21	1043	1069
6			878	1132			6906	6330			6472	6214			1749	1618			1272	1170	21	21	1072	1100
7			1038	1399			7292	7055			5804	5590			1701	1575			1195	1138	T.	T.	1064	1096
8	T.	T.	1096	1647	T.	T.	7698	8093	T.	T.	5307	5111	1	1	1667	1537	6	6	1222	1143	10	14	1076	1127
9			1295	1998			9387	9307	18	18	4957	4090	68	21	1642	1514	8	8	1287	1155	8	8	1069	1110
10	9	10	1248	2134	T.	T.	9895	9656	2	2	4657	4367	20	20	1633	1533	T.	T.	1227	1127			1026	1097
11	3	4	1111	1958	T.	T.	8515	9781	T.	T.	4276	4073	3	2	1860	1528			1147	1083			997	1105
12			1097	1901			8100	9333	T.	T.	3990	3773			1702	1509	5	6	1176	1089			986	1112
13			1254	2102	48	50	8396	9181	T.	T.	3755	3553			1619	1445	1	1	1197	1085			971	1105
14	T.	T.	1264	2324	89	91	8317	9204	2	2	3591	3347	1	1	1579	1463	4	4	1134	1081			968	1121
15	4	4	1382	2422	12	12	7469	8357			3380	3157	1	1	1543	1411	4	4	1135	1084			962	1086
16	41	40	1321	2477	6	9	6991	7485			3210	2995	9	8	1579	1402	T.	T.	1135	1079			956	1059
17	46	41	1303	2392			7215	7213	1	2	3064	2856	2	2	1563	1404	10	9	1122	1089	4	4	993	1089
18	T.	T.	1307	2271			8598	7940			2952	2727	1	1	1547	1388	T.	T.	1133	1085	T.	T.	997	1061
19	T.	T.	1229	2120			12719	9144			2791	2612	26	22	1534	1370	3	3	1147	1097	T.	T.	962	1076
20	14	14	1212	2038			16502	11101			2684	2492	2	2	1504	1353	10	9	1168	1110	18	16	1023	1098
21	14	14	1170	1969	57	58	18496	16571			2584	2382			1421	1295	2	2	1139	1089	24	26	1083	1149
22			1122	1886	2	2	20943	24091	T.	T.	2497	2294	T.	T.	1399	1279	T.	T.	1091	1061	10	10	1047	1132
23			1128	1870	3	3	22892	30971	T.	T.	2403	2221			1350	1274			1042	1040	26	26	1142	1210
24	6	6	1188	1902			22070	32105			2308	2144	72	82	1614	1439	2	2	1012	1022	22	25	1065	1173
25	76	68	1189	1984	T.	T.	21208	29962	T.	T.	2231	2075	3	4	1523	1368	8	4	1037	1034	9	10	1138	1244
26	7	6	1165	1941	18	20	20264	26962	58	58	2169	2157	8	8	1480	1325	1	T.	1027	1081			1050	1164
27			1160	1926	4	6	18635	23819	26	30	2416	2148	2	2	1445	1318	1	1	999	1025			1034	1146
28	T.	T.	1270	2004			16572	19667	1	2	2257	2046	T.	T.	1405	1265			964	1004			1033	1124
29			1445	2157			15265	18577	T.	T.	2145	1960	18	8	1480	1264			964	985			1027	1120
30			1939	2563			13851	14744	T.	T.	2078	1893	2	1	1438	1264	T.	T.	940	991			1027	1118
31							12377	13085					4	2	1391	1232	T.	T.	942	986				

1921

1			1380	2278			3217	3918			6219	5424			2006	1945	T.	T.	1462	1313	18	16	1307	1325
2			1557	2349			3965	5166			5729	4941			1948	1894	2	4	1412	1279	T.	T.	1256	1308
3	T.	T.	1813	2533			4634	6554	33	33	5404	4633	T.	T.	1890	1836	10	10	1424	1300			1171	1259
4	18	17	1908	2728			5424	7729	50	48	5385	4535	26	28	2027	1866	10	9	1401	1294			1141	1223
5	8	8	1945	2692			6093	8753	25	27	5032	4275			1905	1800	T.	T.	1389	1269			1114	1202
6	8	8	1742	2635	20	22	6669	9424	19	19	4681	3932			1843	1746	2	2	1336	1243			1100	1189
7	2	2	1572	2527	1	1	6766	9143	18	18	4709	3827	T.	T.	1812	1712	2	2	1318	1237	T.	T.	1104	1201
8			1439	2334	T.	T.	6584	8864			4327	3555			1744	1639	1	1	1329	1241	T.	T.	1069	1191
9			1379	2194			6473	8534			4150	3413	6	4	1757	1657	34	24	1454	1282			1062	1176
10			1402	2140			6684	9162			4058	3392	T.	T.	1709	1624	4	4	1397	1264			1052	1164
11			1514	2217			7251	10053	1	2	4015	3447	6	6	1699	1619	T.	T.	1352	1240			1044	1175
12	4	4	1621	2197	T.	T.	7811	11634	4	3	3831	3455	12	10	1716	1612	1	1	1303	1213	T.	T.	1046	1179
13			1870	2199	T.	T.	8015	13581	4	3	3826	3487	6	6	1690	1594	19	21	1349	1268	T.	T.	1044	1163
14	8	10	1809	2240	3	4	7934	14647	8	8	3730	3517	24	21	1703	1590	18	16	1416	1316			1028	1160
15	30	34	1760	2155	30	30	7675	14688	3	3	3589	3460	16	16	1703	1585	10	10	1398	1298	4	3	1053	1198
16			1694	2186	42	42	7671	13618	T.	T.	3408	3313	44	42	1844	1631			1316	1250	T.	T.	1063	1201
17			1593	2155	4	4	7305	12426	T.	T.	3245	3178	4	4	1700	1549			1244	1210			1048	1180
18			1661	2177	81	82	7127	11292			3087	3021	33	44	1691	1582	10	8	1281	1223	20	21	1112	1244
19			1693	2225	1	1	7020	10125	T.	T.	2955	2920	32	19	1784	1517	20	20	1337	1286			1082	1209
20	T.	T.	1824	2268			7156	9645	2	3	2905	2833	T.	T.	1664	1471	25	25	1379	1342			1073	1198
21	T.	T.	2049	2268			7662	9519			2789	2728	9	10	1662	1468	10	10	1383	1345			1071	1206
22			2447	2604	T.	T.	8396	9231			2679	2600	24	24	1711	1522	16	18	1350	1346			1090	1213
23	12	11	2584	3008	64	60	9395	9391	4	6	2584	2511	36	34	1734	1539	47	50	1404	1408			1069	1213
24	68	62	2768	2987			9314	9661			2492	2387	13	16	1703	1563	2	2	1444	1394	12	14	1098	1243
25	1	T.	2478	2997	1	1	9117	9510	1	1	2421	2328	23	24	1605	1488	11	11	1325	1323	1	1	1101	1237
26	T.	T.	2132	2809	T.	T.	9396	9061			2334	2247	9	9	1716	1514	T.	T.	1276	1290			1084	1226
27			1999	2566			9026	8800			2255	2171	2	2	1572	1440			1230	1250			1079	1231
28	T.	T.	1941	2429	4	4	8428	8264	T.	T.	2196	2099			1509	1367			1211	1227			1079	1234
29			2080	2500			7811	7548			2117	2057	1	1	1482	1342	T.	T.	1177	1313			1078	1226
30	T.	T.	2607	3148			7262	6731	1	1	2070	1998			1450	1314	7	8	1172	1210			1060	1236
31							6731	6025					5	6	1461	1326	50	43	1348	1312				

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued  
1921-22

Date	October				November				December				January				February				March			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
11	7	6	1067	1287			971	1234			917	1057			909	1140			874	1124	18	16	858	1086
12	2	2	1053	1284			974	1240			931	1097			904	1124			878	1117	31	29	866	1096
13	T.	T.	1033	1267			972	1253			918	1136			896	1135	T.	T.	868	1103			885	1096
14			1026	1291			974	1254			910	1133			896	1149			866	1087			882	1096
15	T.	T.	1029	1288			985	1244			909	1091			895	1131			857	1071			887	1136
16			1027	1284	T.	T.	996	1212	T.	T.	895	1076			902	1134	T.	T.	859	1063	63	61	893	1145
17			1024	1273	24	24	1002	1231			809	1057	1	1	899	1135			866	1084	86	83	878	1138
18			1013	1267			977	1196	12	10	875	1024	18	19	902	1140	1	1	868	1118	26	26	866	1138
19			1026	1274			961	1215	27	25	909	1100	13	12	909	1127			873	1149			870	1154
20			1027	1265			970	1216	8	8	928	1100			909	1136	T.	T.	882	1177			887	1178
21			1029	1266			964	1225	6	6	941	1149			899	1110	34	35	869	1152			945	1177
22			1027	1274			957	1203	52	44	934	1201			873	1087	T.	T.	891	1150			1001	1262
23			1015	1269			964	1213	16	15	933	1187			812	1074	8	8	896	1122			1034	1311
24	29	31	1059	1344	4	4	960	1226			919	1162			741	1085	T.	T.	889	1110	T.	T.	1031	1409
25			1038	1311	4	4	962	1225	4	3	911	1156			682	1075			897	1110			1047	1490
26			1006	1295			953	1196	7	6	918	1163			655	1092	T.	T.	889	1118	7	6	1054	1522
27	8	8	1013	1284			960	1166	5	6	909	1167			630	1084	78	72	887	1117	6	6	1036	1621
28			1003	1251			947	1145			909	1159	12	12	634	1105	1	T.	875	1105	10	10	993	1483
29			1014	1274			948	1154			908	1152			659	1102					T.	T.	967	1445
30			1005	1288			949	1164			914	1166	84	82	666	1099					T.	T.	966	1444
31			1009	1287							909	1156	54	52	702	1116							964	1421

## 1922-23

1			1010	1092			1029	1149			974	1172			931	1089	40	40	888	1044			870	1048
2			1014	1089	T.	T.	1083	1146			973	1169			910	1067			879	1055	12	11	887	1059
3			1020	1091	86	82	1025	1164	10	10	963	1167			907	1042	11	12	877	1038	10	10	902	1070
4			1018	1106	10	8	1041	1185			963	1166			899	1054			877	1035	26	24	890	1067
5	T.	T.	1008	1109			1030	1188			963	1148			899	1052			868	1033	T.	T.	876	1063
6			1021	1103			1016	1178	1	1	963	1143			890	1058			877	1033	1	2	866	1044
7			1022	1108			1001	1164	2	2	977	1158			899	1059			868	1028			869	1067
8			1020	1117			1005	1152	10	10	963	1160			899	1055			869	1037			877	1047
9			1020	1110			1014	1158			963	1135			899	1059	20	18	877	1043	10	11	877	1051
10			1022	1110	4	4	1020	1151			953	1139			899	1041			877	1034	12	14	869	1065
11			1027	1118	15	14	1016	1164			952	1130			900	1045	4	4	876	1024	11	10	877	1087
12	5	6	1028	1156	9	9	1005	1158			959	1122			909	1040	8	8	866	1023	T.	T.	866	1083
13			1023	1137	6	8	980	1139	64	65	963	1138	T.	T.	909	1050			866	1028			856	1028
14			1020	1126			984	1130	18	18	963	1154			918	1043			866	1010	13	14	858	1022
15			1023	1128			976	1115	2	2	963	1152			901	1036			866	1004			864	1015
16			1025	1129	96	97	977	1141	1	1	965	1145			888	1047			874	1014			843	1007
17	T.	T.	1023	1134			1004	1173			952	1129			889	1055			868	1011	16	17	851	1080
18			1022	1132			1000	1162			921	1102			895	1044			889	1013			836	1019
19			1027	1126			988	1174			922	1105			899	1040			900	1016			852	1038
20			1022	1133			975	1166			931	1105	T.	T.	899	1051			905	1027	15	15	854	1062
21	6	6	1022	1141	46	44	983	1189			925	1096			589	1052			892	1028	34	34	866	1039
22			1027	1144	31	30	988	1179			936	1082			888	1050	T.	T.	876	1033	6	5	857	1032
23			1011	1132	20	20	986	1167			941	1091			888	1043			870	1049			860	1023
24			1017	1140	18	17	995	1179			941	1078	20	20	885	1048	T.	T.	877	1041			859	1021
25			1019	1133	T.	T.	984	1167	3	3	941	1100	29	30	877	1060	3	2	877	1053	T.	T.	856	1021
26			1008	1121			976	1169			937	1090	T.	T.	877	1045	10	8	876	1051	2	2	864	1056
27			1006	1141			973	1164			931	1075	T.	T.	874	1054			866	1041			878	1099
28	50	50	1032	1204			973	1167	4	4	932	1089			866	1035			866	1038	T.	T.	890	1168
29	2	3	1028	1189	140	144	986	1190	T.	T.	935	1100			873	1038							931	1261
30	T.	T.	1024	1169	2	2	994	1191			931	1088	10	8	888	1028							960	1368
31			1010	1149					T.	T.	921	1092	22	19	888	1037					T.	T.	981	1447

## 1923-24

1.	T.	T.	1185	1252	36	34	1262	1544	5	4	1085	1217	37	40	967	1142			870	1103			872	1066
2.	22	24	1273	1395			1269	1520	T.	T.	1071	1210			963	1128	T.	T.	876	1115	14	14	881	1091
3.	T.	T.	1260	1363			1237	1479	T.	T.	1070	1209	2	3	958	1145			869	1081	T.	T.	888	1084
4.	T.	T.	1246	1363			1212	1446			1070	1202			963	1131			845	1048			879	1061
5.	15	17	1293	1422			1186	1440			1063	1205			961	1129			820	1053			876	1067
6.			1274	1407			1165	1418			1057	1188			953	1127	3	4	834	1052			866	1065
7.			1257	1393			1161	1406			1059	1222			962	1117			834	1089			866	1120
8.	18	16	1228	1381	T.	T.	1189	1407	8	8	1052	1200			956	1118			848	1090	16	14	866	1080
9.	3	4	1275	1390			1205	1408	10	10	1030	1158	6	6	961	1128			866	1067			862	1066
10.	2	2	1259	1392	120	113	1216	1417	20	20	1027	1163			952	1120	62	62	866	1056	5	6	857	1065
11.			1244	1384			1221	1447	16	16	1034	1170	4	4	952	1136			870	1062	32	28	866	1068
12.	72	72	1249	1476			1189	1424			1041	1176			949	1118			897	1096	69	62	866	1077
13.	12	10	1261	1536			1170	1414			1027	1143			936	1112			987	1156	16	12	866	1067
14.			1282	1553			1166	1396			1017	1154			931	1112	8	7	942	1123	T.	T.	866	1064
15.			1290	1544			1167	1391			1007	1112			935	1102	10	10	947	1127	18	15	866	1047
16.			1303	1541			1155	1393			988	1121	10	9	928	1106			951	1105	20	16	866	1055
17.			1264	1507			1147	1357			990	1132			918	1080	T.	T.	941	1094	T.	T.	865	1086
18.			1239	1474			1134	1341			965	1117			912	1075			912	1099	30	32	857	1085
19.			1229	1451			1135	1343			993	1123			923	1079			906	1117	4	4	866	1070
20.			1216	1462			1155	1339	11	11	984	1153			896	1054			907	1118	6	6	866	1062
21.			1206	1463			1146	1337	T.	T.	971	1136			885	1069			902	1119	22	20	866	1057
22.	58	56	1244	1495			1125	1306			956	1130			870	1068	T.	T.	907	1101	6	6	866	1055
23.	17	18	1270	1537			1123	1292			950	1106			882	1074	2	2	893	1065	5	5	858	1041
24.	20	22	1261	1523			1123	1282			972	1102			880	1058	2	2	877	1062	8	8	856	1056
25.	9	9	1246	1522			1121	1279			966	1108			862	1066			868	1076			921	1219
26.			1235	1535	10	9	1106	1266	12	12	1000	1145			843	1069	9	8	867	1062			1069	1528
27.			1217	1507	6	6	1103	1264	15	13	1003	1131			829	1080	10	10	877	1080	6	6	1186	1762
28.			1236	1515			1063	1231			984	1114			822	1073			871	1079	34	32	1034	1439
29.			1249	1528			1092	1262	T.	T.	984	1134			821	1078			877	1079	16	15	966	1318
30.			1230	1513			1107	1255	39	38	987	1126			824	1080					1	1	938	1244
31.	12	10	1241	1526					T.	T.	977	1150			841	1065							906	1207



TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1922-Continued																								
Date	April				May				June				July				August				September			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B		
11			1060	1919	T.	T.	5919	8269			3509	3363			1419	1383	4	4	1287	1208			956	1006
12	18	18	1071	1898			5576	7163			3327	3205	2	1	1411	1360			1236	1185			948	993
13	13	14	1063	1874			5549	6877	1	1	3172	3098	T.	T.	1376	1325	31	28	1263	1213			931	987
14			1055	1818			5994	7173			3021	2923			1324	1293	92	75	1225	1186	T.	T.	927	985
15			1111	1950	1	1	7525	7477			2965	2833	T.	T.	1303	1271	18	14	1657	1401			927	1082
16	1	1	1139	2010			8548	8241	2	2	2865	2753			1293	1239	23	21	1451	1369	T.	T.	922	987
17	T.	T.	1083	1964			9629	10201			2771	2649	6	3	1367	1257	1	1	1409	1310	T.	T.	921	991
18			1063	1958			11115	12300	T.	T.	2640	2530	10	4	1356	1276	8	8	1276	1241			964	1027
19			1130	2109	T.	T.	11691	14695			2507	2441			1332	1293	14	18	1340	1297			950	1027
20			1299	2490			11868	17353	T.	T.	2457	2360			1265	1244			1273	1231	T.	T.	935	1017
21			1629	3072	T.	T.	11996	20680	T.	T.	2346	2292	2	2	1257	1228	17	6	1317	1232			929	1019
22			2057	3873			11726	22218	2	1	2269	2208			1220	1191	2	1	1280	1206			927	1021
23			2192	4430			11089	20885	74	74	2508	2375	T.	T.	1176	1185			1202	1170			923	1023
24	T.	T.	2014	3006	T.	T.	10781	19876	1	1	2290	2214	T.	T.	1164	1146	1	1	1169	1144			928	1037
25	7	7	2037	3399			10322	18263	2	2	2166	2138	T.	T.	1153	1126			1115	1119	12	12	984	1074
26	19	19	2105	3139			9728	16172	1	1	2114	2052	T.	T.	1185	1147			1076	1064	T.	T.	1007	1093
27			2352	5216			8970	13883			2038	1972			1190	1158	2	2	1077	1048	4	2	1006	1102
28	2	2	2378	5136			8321	11975	10	12	1995	1967	20	14	1289	1213	T.	T.	1073	1055	T.	T.	1005	1105
29	4	5	2025	5470			7769	10370	10	9	1982	1926	111	104	1382	1330	32	42	1112	1154			1017	1090
30			4005	6113	T.	T.	7303	9002	9	8	1986	1897	24	22	1486	1375	T.	T.	1095	1103			1015	1100
31					24	23	7047	8076					2	2	1457	1349			1044	1069				

1923																								
1	31	31	968	1426			3649	4223			4234	4668			1498	1323	2	1	1084	1020	22	32	1167	1211
2	11	12	948	1347			4329	4809			3976	4236	T.	T.	1469	1298	2	1	1063	1006	1	1	1106	1126
3	4	4	917	1292			5361	4984			3730	3998			1469	1315	2	2	1059	1004	1	1	1081	1109
4			904	1256	6	6	6114	5525	T.	T.	3532	3613	32	32	1534	1378	21	22	1140	1065			1047	1066
5			923	1279	14	13	5967	6055			3346	2302	4	6	1483	1349	T.	T.	1135	1050	4	3	1062	1075
6	24	24	1068	1424			5374	6350			3152	3091	1	1	1445	1319			1047	993			1015	1047
7	4	5	1104	1527			5771	6482	22	20	3057	2955	34	34	1505	1386	2	2	1063	1005			970	1021
8			1117	1601			6634	6770	21	20	3053	2887	39	41	1596	1443	10	12	1081	1027	T.	T.	973	1009
9			1168	1689			6923	7558	2	2	2816	2669	25	28	1595	1454	6	4	1133	1064			969	1000
10			1166	1799			7583	8110			2684	2556	18	7	1574	1373	55	57	1322	1205			953	1000
11	T.	T.	1287	2031			8411	8552			2590	2432	2	1	1498	1324	46	46	1216	1160			952	999
12	2	2	1518	2474	T.	T.	8676	8892	2	1	2513	2321			1445	1262	34	36	1243	1203	14	14	993	1043
13			1630	2724	28	30	8362	8991			2469	2218	24	22	1522	1325	20	18	1196	1234	4	4	1002	1067
14	1	1	1480	2658	2	2	7712	8297			2374	2130	16	16	1580	1371	28	28	1276	1225	12	12	1030	1092
15			1386	2460	1	1	7120	8052	1	1	2285	2034			1480	1287	8	8	1263	1237	30	28	1137	1193
16			1491	2427	14	12	6917	8638	2	2	2237	1979	T.	T.	1422	1253	34	28	1435	1334	30	30	1102	1200
17			1721	2634	1	1	7254	9224			2163	1886	T.	T.	1371	1219	43	36	1546	1370	24	32	1142	1261
18	T.	T.	1691	2863			7908	10226	T.	T.	2095	1851	8	8	1378	1204	30	30	1419	1334	105	102	1293	1579
19	10	12	1584	3046			8528	12577			2019	1762	8	4	1368	1197	16	12	1346	1272			1335	1497
20			1711	3021	T.	T.	8791	15105	34	29	2085	1831	28	19	1424	1220	3	2	1297	1242			1315	1366
21	28	28	1677	3024			8550	15921			1948	1733			1368	1185	24	28	1214	1230			1269	1289
22	65	62	1608	2894	T.	T.	7925	14712			1895	1681	T.	T.	1285	1160	1	1	1232	1209	6	5	1201	1247
23			1538	2687			7286	13487			1835	1615			1241	1115	4	4	1183	1182	73	76	1647	1538
24			1565	2593	T.	T.	6718	12094			1786	1574			1206	1080			1138	1123			1473	1448
25	12	10	1572	2549			6361	10660			1730	1517	2	3	1190	1074			1100	1091			1285	1341
26	10	12	1692	2613			6139	9354	22	20	1771	1560	5	5	1213	1090			1074	1044			1185	1299
27	2	2	1685	2757			5871	8214			1683	1476	2	2	1220	1097			1041	1008	36	38	1201	1318
28			1907	2792			5533	7150			1616	1433	T.	T.	1154	1068			1027	1015			1225	1332
29			2486	3198			5222	6256			1584	1405			1071	1033			1045	1020			1225	1305
30	T.	T.	3055	3749			4580	5706			1536	1366			1056	1019	2	2	1082	1044			1211	1277
31							4555	5231					10	8	1085	1029	20	16	1104	1074				

1924																								
1			935	1224			4341	4169			4310	3582			1594	1380	14	12	1179	1135	T.	T.	855	992
2	14	16	917	1231			5336	4854	T.	T.	4078	3395			1551	1350			1118	1093			828	969
3			1140	1397			6518	6025	2	2	3872	3167			1503	1328	1	1	1113	1081			824	984
4			1351	1479	3	3	7629	7232	T.	T.	3699	3017	10	9	1467	1301	14	14	1122	1089	T.	T.	825	969
5			1745	1670	6	6	8762	8761	T.	T.	3548	2877	34	33	1530	1354	2	2						

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1924-25

Date	October				November				December				January				February				March			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1			986	1167			972	1190			909	1074			909	1098			877	1070			866	993
2	1	1	994	1174			973	1193			934	1073	T.	T.	909	1109			868	1066			870	1061
3			1001	1200			968	1184	8	10	960	1081			902	1098			877	1066			876	1067
4			1008	1211			971	1188			944	1095			909	1080			874	1085			892	1091
5			1000	1198	22	20	1000	1192	T.	T.	940	1094			909	1087	T.	T.	873	1091			904	1111
6			999	1209	8	8	995	1237	52	53	950	1063			908	1083			878	1086			902	1148
7	12	11	997	1251			969	1162			962	1110			899	1087	33	32	888	1069	83	74	889	1098
8	T.	T.	1018	1224			989	1146	T.	T.	955	1124			899	1060	1	1	880	1045	133	130	888	1089
9			1012	1214			1000	1168	T.	T.	941	1102	T.	T.	899	1049	12	11	885	1040	12	12	878	1082
10			1027	1216	6	6	984	1208			932	1087	4	3	893	1045			870	1046	2	2	870	1066
11	15	17	1030	1231			963	1181			920	1100	T.	T.	897	1056			868	1060	T.	T.	877	1063
12			1019	1239	22	22	973	1181			924	1104	T.	T.	888	1022			876	1072	11	11	877	1071
13			1016	1243	T.	T.	967	1201			932	1116			888	1050	1	1	866	1072	4	3	877	1060
14	47	54	1062	1326			964	1183			933	1118			889	1031			866	1045			868	1043
15	10	12	1215	1416			963	1166			931	1116	8	8	893	1014	T.	T.	865	1047			871	1041
16			1075	1319			963	1178	50	50	935	1141	T.	T.	882	1017			866	1028	1	2	873	1046
17	26	28	1112	1316			963	1167	52	50	941	1149			875	1005			866	1022	12	11	897	1046
18			1099	1325	47	46	967	1178	17	17	939	1143			866	999			866	1046			884	1018
19			1017	1248	2	3	972	1193			913	1118	T.	T.	866	1016			866	1033			887	1027
20			1001	1207			966	1199			919	1113			866	1028	T.	T.	866	1074			927	1078
21			1008	1201			971	1201			920	1124			866	997	10	10	866	1037			955	1133
22			985	1209			964	1211	8	8	936	1134			866	990	T.	T.	865	1048			973	1180
23			984	1206			963	1171	28	22	937	1147			866	1019			858	1040	2	2	971	1196
24			997	1200	T.	T.	953	1137			917	1122	1	1	871	1040	T.	T.	866	1060			970	1208
25			993	1212			941	1119			909	1105	T.	T.	877	1042			866	1041			1030	1319
26			981	1205			943	1127			909	1105	3	2	877	1039			866	1014			1065	1366
27			968	1200			946	1116			906	1109			877	1035	T.	T.	866	1029	40	38	1022	1270
28			968	1198			952	1126			918	1119	2	1	877	1044	2	2	866	1024			1055	1302
29	30	29	1011	1222			914	1112	T.	T.	920	1125			873	1035							1141	1383
30	1	1	1013	1223			909	1102			920	1123			866	1052					T.	T.	1207	1409
31			977	1211					3	3	919	1123			868	1058							1326	1433

1925-26

1			840	913			838	949			834	920	12	12	802	882	T.	T.	759	804			731	931
2			837	904	80	77	862	990	T.	T.	834	929	22	20	804	898			749	837			735	963
3	T.	T.	858	906	23	22	866	991	2	2	833	901			813	899	T.	T.	727	833			735	978
4	6	6	866	929			865	982			818	850			806	896			727	861	1	1	738	977
5	52	47	1009	1049	1	1	857	963			813	922			794	868			720	880	17	22	746	851
6	T.	T.	928	993	65	62	859	968	2	2	813	927	1	2	792	866			735	797			738	864
7			878	962			866	986	5	6	813	922			792	848			752	824			720	872
8			866	950			866	977	T.	T.	813	908			792	835			763	857			727	909
9			866	942			856	970			802	909			792	848			764	850	26	28	727	890
10	26	24	890	980			856	977			802	911			784	848			763	857	38	40	727	860
11			1071	1130			865	981			802	908	T.	T.	783	821			762	864			744	924
12	4	4	945	1031			866	984			807	916			749	816			759	825			744	907
13	34	36	947	1144	T.	T.	866	975	2	2	813	920			753	847	2	2	757	836			764	965
14	37	40	941	1124	T.	T.	852	926	T.	T.	804	874			747	825	1	1	759	837			773	985
15			923	1071			834	924			763	814			708	821	T.	T.	755	834			788	985
16			928	1062			834	967			772	851	T.	T.	730	838	13	12	752	836			782	1012
17			915	1054			834	952			753	831			708	842	12	12	744	824	T.	T.	787	1017
18			909	1028			834	947			780	878	T.	T.	729	831			739	820	T.	T.	763	978
19			917	1004			804	923			803	867	12	11	737	793			727	839	22	22	759	987
20			892	989			792	917			796	865	20	18	718	804			727	831	30	34	759	996
21			879	982			804	922			787	869			719	797	T.	T.	733	848	15	10	759	992
22			882	982			826	924			792	854	1	1	673	796			732	845			789	1013
23	38	40	930	1043			834	931			793	864			667	798	8	8	737	835			817	1044
24			909	1011	T.	T.	834	929			792	870	1	1	659	800			735	850			825	1075
25			891	992			834	984			792	856			710	805	2	2	731	829	10	8	765	999
26			877	972			834	930			784	871			715	817			714	888	T.	T.	789	960
27			872	976			828	935			792	878			724	794			712	896	T.	T.	775	921
28			877	980			816	950			787	878			707	788			729	902	2	2	770	893
29	T.	T.	874	974			824	928			764	884			697	811					26	26	767	877
30			853	960			833	919			771	867	2	1	759	824					T.	T.	763	891
31			848	952					T.	T.	792	840			755	798					28	26	787	888

TABLE 66.—Daily run-off in hundred-thousandths of an inch over watershed and precipitation in hundredths of an inch—Continued

1925

Date	April				May				June				July				August				September			
	Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off		Precipitation		Run-off	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
1	1	T.	1388	1341	T.	T.	2523	3257	T.	T.	1594	1762			1038	1117			826	935	5	2	855	968
2			1411	1364			2533	3718	4	4	1593	1722	16	16	1049	1148	7	9	873	938	4	6	835	941
3			1415	1409			2532	3937	52	55	1627	1842	4	2	1029	1129	54	50	905	1069	T.	T.	818	921
4			1587	1488	12	12	2602	3914	64	66	2224	2156	48	58	1120	1258	18	20	887	1036	22	18	878	975
5	1	2	1753	1530	8	8	2640	3935	12	9	2118	2013	30	32	1272	1324	1	1	874	1012	4	8	856	976
6	24	24	1617	1442	1	2	2624	3839			1835	1834	1	1	1122	1213			820	966	8	6	857	967
7	25	27	1438	1373		T.	2807	3724			1727	1720			1041	1147			821	945			834	941
8			1359	1282	6	8	2533	3872			1653	1636	12	14	1026	1141	4	4	815	929			804	926
9			1370	1290	4	5	2446	3890	T.	T.	1611	1583	34	36	1096	1203	34	31	929	1012	7	7	806	942
10			1547	1409	14	13	2398	3808			1592	1526	29	29	1120	1205	54	56	1048	1134			812	936
11			1861	1550	48	46	2750	4029	36	38	1660	1646	11	12	1156	1234	3	3	916	1042	2	1	806	921
12			2196	1700			2670	3704			1611	1564	2	3	1017	1125	12	10	873	1015	17	20	843	967
13			2249	1745			2493	3623			1528	1498	T.	T.	970	1049	3	2	867	979	6	6	851	938
14			2305	1793	1	1	2431	3443			1484	1447			940	1029			829	941	2	2	825	933
15			2379	1849			2408	3238			1451	1405	11	15	939	1027			781	901			810	916
16			2460	1928			2374	3081	8	10	1450	1445	4	3	913	1004			767	883			798	905
17			2436	2059			2344	2985			1411	1401	7	7	899	993	T.	T.	763	863	6	6	825	934
18			2296	2071			2281	2884			1374	1359	9	9	897	999	45	58	857	1024	43	46	905	1027
19			2291	2152			2233	2765	3	2	1367	1348	22	20	855	987	24	28	912	1043	16	16	962	1049
20			2309	2414			2142	2648	4	3	1332	1356	31	30	1019	1102	5	8	860	1009			867	984
21	30	31	2354	2657	11	10	2091	2572	8	8	1314	1361	32	37	1024	1141	T.	T.	824	960	2	4	858	968
22	20	22	2246	2685			2009	2447	2	2	1263	1335	1	2	997	1084	20	21	810	978			855	931
23	2	2	2078	2304			1945	2315			1240	1286	4	4	931	1042	33	30	938	1068	T.	T.	863	923
24			2090	2104	6	6	1909	2201			1182	1251	T.	T.	903	1005	14	12	952	1127	T.	T.	863	907
25			2131	2080			1861	2129	2	2	1145	1222	3	8	901	1016	17	16	915	1077			861	922
26			2134	2266	T.	T.	1803	2042	2	3	1135	1211	8	8	915	1006			860	1012			860	930
27	T.	T.	2166	2549	T.	T.	1759	1984	12	11	1142	1221	34	33	1007	1093	4	2	849	980			850	917
28			2245	2829			1719	1931	1	1	1136	1194	1	1	944	1034	24	22	878	986			844	912
29	30	32	2255	3023	T.	T.	1660	1854	5	6	1093	1173	10	12	920	1028			891	990			847	911
30	11	8	2447	3109			1638	1801	T.	T.	1088	1170			874	982			830	954			847	910
31					6	6	1616	1795					4	5	843	965	1	1	819	933				

1926

1	40	38	770	879	7	6	3045	3834	2	2	2724	2960	6	6	1367	1203	T.	T.	812	803			646	665
2			767	898	T.	T.	3177	4068	2	1	2676	2840	10	8	1313	1157			796	771	11	12	672	705
3	2	2	770	903	25	23	3349	4351			2621	2681	14	15	1344	1179	34	28	843	817	21	20	709	749
4			810	969	T.	T.	3613	4738			2577	2582	2	1	1317	1173	14	14	881	841	5	6	741	755
5			841	1033	34	36	3759	5355			2528	2455	10	10	1324	1179	1	T.	862	825			709	735
6	T.	T.	894	1089	2	2	4066	6103	3	1	2492	2393	22	21	1389	1218	85	97	1215	1146			690	719
7	T.	T.	956	1242	1	1	4125	6628			2455	2324	9	10	1400	1224	63	66	1229	1083	T.	T.	685	718
8	4	4	928	1213	13	14	4160	7077			2393	2193			1274	1154	2	2	1223	1034	1	1	679	708
9	T.	1	944	1108	1	1	3934	6966	T.	T.	2319	2103			1190	1079			932	939			657	707
10	4	T.	971	1068	14	14	3673	6498			2255	1992			1147	1041	12	6	919	912	T.	T.	645	711
11			1030	1071	3	3	3517	6077	T.	T.	2197	1934	96	92	1697	1300	2	1	931	895	28	28	731	796
12			1074	1153	18	20	3328	5568	25	24	2244	1950	15	6	1404	1191	2	2	918	887			710	770
13	T.	T.	1096	1202	8	6	3293	5110	T.	T.	2138	1869	T.	T.	1266	1112			885	861			683	747
14			1193	1237			3183	4763			2043	1779	2	2	1134	1054	8	7	890	859	T.	T.	660	740
15			1305	1314	12	15	3164	4622			1957	1710	T.	T.	1137	1016	2	2	878	843	3	3	676	742
16			1462	1386	1	1	3244	4591			1900	1634			1103	975	T.	T.	868	827	4	4	677	755
17	T.	T.	1434	1372	T.	T.	3380	4749	5	6	1871	1610			1057	947	T.	T.	856	817	1	1	684	757
18			1546	1444	T.	T.	3521	4955			1843	1575			1036	926	2	2	857	821			673	763
19	16	18	1450	1379			3678	5801			1759	1509			999	894			821	798			673	759
20	70	68	1372	1307			3722	6741			1698	1462	21	26	1041	920			788	770	1	2	676	742
21	2	2	1536	1471	T.	T.	3718	6805			1655	1399	4	6	1035	926	T.	T.	760	763	1	1	688	738
22	T.	T.	1732	1603			3652	6528			1556	1359	T.	T.	988	906	T.	T.	738	751	8	8	704	763
23			1956	1631			3550	6096			1493	1323	T.	T.	958	892	T.	T.	744	745			694	761
24			1995	1694	8	8	3476	5584			1432	1264	2	2	921	917			706	733			685	753
25			2271	1669			3328	4974			1365	1223	2	2	915	901	T.	T.	693	724	2	2	701	759
26			2545	1857	26	27	3312	4587	2	2	1335	1191	T.	T.	890	889			687	716	66	70	897	946
27			2508	2071	2	4	3240	4145			1307	1180	19	18	936	931			671	699	8	8	804	870
28	12	11	2673	2575	2	3	3072	3798	T.	T.	1289	1153	11	12	948	947	1	1	665	701	T.	T.	784	841
29			2759	2986	T.	T.	2918	3590			1247	1140	12	16	947	939	T.	T.	657	694			786	828
30			2857	3466	12	9	2843	3357	62	53	1419	1218			900	902			650	689	6	8	792	838
31							2783	3145					T.	T.	854	867			646	673				